RECORD AND BRIEFS.

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No. ___

In the Supreme Court of the United States

WESTERNGECO LLC,
Petitioner,

v.

ION GEOPHYSICAL CORPORATION,
Respondent.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Under 35 U.S.C. § 271(f), it is an act of patent infringement to supply "components of a patented invention," "from the United States," knowing or intending that the components be combined "outside of the United States," in a manner that "would infringe the patent if such combination occurred within the United States."

Under 35 U.S.C. § 284, patent owners who prevail in litigation are entitled to "damages adequate to compensate for the infringement."

In this case, despite affirming that Respondent was liable for infringement under § 271(f), the majority of a divided panel of the court of appeals held that Petitioner was not entitled to lost profits caused by the proscribed combination. The court of appeals reasoned that even when Congress has overridden the presumption against extraterritorial application of the law in creating *liability*, the presumption must be applied a second time to restrict *damages*.

The question presented is:

Whether the court of appeals erred in holding that lost profits arising from prohibited combinations occurring outside of the United States are categorically unavailable in cases where patent infringement is proven under 35 U.S.C. § 271(f).

CORPORATE DISCLOSURE

All parties are listed in the caption.

WesternGeco LLC is an indirectly, wholly owned subsidiary of Schlumberger Limited, which is a publicly traded company.

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INTRODUCTION

By statute, patent owners who prove infringement are entitled to "damages *adequate to compensate for the infringement*, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284 (emphasis added). What damages are "adequate to compensate for the infringement" depends on the application of general tort principles to the facts of each case and can include lost profits in appropriate cases. Section 284 applies to damages for infringement under 35 U.S.C. § 271(f). Congress adopted § 271(f) in response to this Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). Subsection (f) defined new acts of patent infringement: Whoever, with the requisite mental state, exports components of a patented invention from the United States for combination "*outside of the United States* in a manner that would infringe the patent if such combination occurred within the United States," "shall be liable as an infringer." 35 U.S.C. § 271(f) (emphasis added). In enacting § 271(f), Congress treated a specific action within the United States (exporting from the United States with the intent to combine abroad) as sufficient to impose liability, knowing full well that the combination and ultimate use would occur abroad.

The issue in this case is whether infringers under § 271(f) should be liable for the full scope of damages available under § 284. The answer is plainly yes.

In reaching a contrary conclusion, the Federal Circuit has, once again, erected an artificial edifice nowhere supported by the text of the Patent Act—this time based on a fundamental misapplication of the presumption against extraterritoriality. In so doing,

the panel majority guts the remedies for the rights Congress created in subsection (f), departs from this Court's precedents, and interprets patent law in a manner inconsistent with the regional circuits' treatment of copyright law.

Over vigorous dissents at the panel stage, on petition for rehearing, and again on remand from this Court, the panel majority held that the presumption against extraterritoriality must be applied, not just to determine liability, but reapplied yet again to limit *damages*, even *after* liability is established. The result is to effectively eliminate lost profit damages where infringement is found under § 271(f), limiting patent owners only to a reasonable royalty. In this case, that artificial limit on available remedies made nearly a $100 million difference and allowed Respondent to facilitate the destruction of Petitioner's business model.

Neither this Court nor any other court of appeals has ever applied the presumption against extraterritoriality in such a duplicative manner. The result defeats Congress' intent in enacting § 271(f), as Congress plainly understood this new form of infringement would involve combinations abroad—leading to use and damages from infringement—and just as plainly made the full scope of damages under § 284, not just reasonable royalties, available to victims of such infringement. In addition to being inconsistent with congressional intent and more than a century of this Court's precedents, the panel majority's approach stands in stark contrast to the regional circuits' application of the predicate act doctrine to determine whether damages based on overseas sales are recoverable for acts of copyright infringement. If left unreviewed, the Federal Circuit's decision will substantially

diminish the remedies available to every patentee who would rely on § 271(f) to enforce its patents, effectively nullifying much of Congress' deliberate work in enacting § 271(f) more than thirty years ago. This Court should grant certiorari.

OPINIONS BELOW

The court of appeals' panel opinion and dissent following a GVR order from this Court (136 S. Ct. 2486) are reported at 837 F.3d 1358 (App. 1a-22a). Its previous panel opinion and dissent are reported at 791 F.3d 1340 (App. 23a-75a). And its order denying rehearing en banc, and the dissent of three judges from that order, are at 621 F. App'x 663 (App. 176a-180a).

The district court's opinion deciding post-trial motions is reported at 953 F. Supp. 2d 731 (App. 76a-140a). Its July 16 and June 29, 2012 orders—addressing motions in limine and summary judgment—are unreported and available at 2012 WL 2911968 (App. 141a-154a) and 2012 WL 2568167 (App. 155a-167a).

JURISDICTION

The court of appeals entered judgment on September 21, 2016. On December 13, 2016, the Chief Justice granted an extension to February 17, 2017, to file this petition (Docket No. 16A576). This Court has jurisdiction under 28 U.S.C. § 1254(1).

PERTINENT STATUTORY PROVISIONS

35 U.S.C. § 271(a)-(c) and (f) provide:

Infringement of patent.

(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers

to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

* * *

(f)(1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

> (2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 284 provides in relevant part:

> **Damages.**
>
> Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

STATEMENT OF THE CASE

A. Statutory Background

A patent owner may seek remedies in federal court "by civil action for infringement." 35 U.S.C. § 281. 35 U.S.C. § 271 defines patent infringement, and § 284 provides for damages upon proof of infringement.

1. Infringement (§ 271)

35 U.S.C. § 271 defines several different types of patent infringement. Subsection (a) defines direct in-

fringement as making, using, offering to sell, selling, or importing any patented invention, without a license and during the patent's term. Subsections (b) and (c) define indirect infringement—actively inducing or contributing to another's act of direct infringement. *See generally Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920 (2015); *Global-Tech Appliances v. SEB S.A.*, 563 U.S. 754 (2011).

Congress enacted subsection (f) in 1984, in response to this Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). In *Deepsouth*, the defendant sold a machine covered by a patent, but never assembled the full machine in the United States. Instead, the defendant shipped components in three boxes to customers abroad, who could assemble the machine within an hour. 406 U.S. at 523-24. By a 5-4 vote, this Court held that the defendant could not be liable for infringement under then-existing 35 U.S.C. § 271. The defendant's customers' acts all took place abroad. *Id.* at 527. And the defendant did not make, use, sell, or offer to sell the entire patented machine in the United States, nor induce or contribute to such acts occurring in the United States. *Id.* at 528.

Congress enacted subsection (f) to 35 U.S.C. § 271 to change that result and close what it viewed as "a loophole in patent law." 130 CONG. REC. H10525 (1984). The Senate Report accompanying the final bill described § 271(f) as a "reversal of *Deepsouth*." S. REP. NO. 98-663, at 2-3 (1984). Section 271(f) makes "liable as an infringer" one who "supplies or causes to be supplied in or from the United States" components "of a patented invention," knowing or intending that the components will be combined "outside of the United

States in a manner that would infringe the patent if such combination occurred within the United States."

In § 271(f), Congress imposed liability on a specific act taking place within the United States (exporting with the requisite intent). Congress did so knowing full well that the combination and use, and thus damages, would occur abroad. Accordingly, this Court has described § 271(f) as an "exception" to "the general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country." *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 441 (2007).

2. Damages (§ 284)

Patent owners who prove infringement are entitled to damages: "the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284.

Section 284 is a general damages provision that does not distinguish among types of infringement. This Court examined § 284 in *General Motors Corp. v. Devex Corp.*, 461 U.S. 648 (1983). Section 284's plain text makes clear that the damages remedy is not limited to a reasonable royalty, but such a reasonable royalty serves as an absolute floor to recovery. Rejecting an argument that § 284 did not authorize interest, *General Motors* concluded that the statute entitles a patent owner to "full compensation for 'any damages' he suffered as a result of the infringement," *id.* at 654-55 (citation omitted), and that "[w]hen Congress wished to

limit an element of recovery in a patent infringement action, it said so explicitly." *Id.* at 653.[1]

B. Factual Background

1. WesternGeco's Patents

WesternGeco developed and patented technology used in geological surveys to search for oil and gas under the ocean floor.

Under preexisting technology, a ship tows an array of streamers (miles-long cables filled with sensors) over the area to be surveyed, and an air gun sends soundwaves toward the ocean floor. Sensors in the streamers detect sound waves reflected off the earth's subsurface, and use the reflected soundwaves to map the geology under the ocean. App. 24a-25a.



ship towing streamer array

streamers detecting reflected sound waves

Surveys are expensive and time-consuming, but the resulting data are valuable to oil exploration companies. High-quality data are important because a company stands to lose hundreds of millions of dollars or more when it drills a well and finds no oil. CA App. 3072:1-18.

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[1] Indeed, sections 271(e)(4)(C), (e)(6)(B) carve out limited exceptions to the availability of money damages in circumstances not relevant here.

WesternGeco invented "lateral steering," which allows surveyors to control the movement of the streamers, rather than simply pulling them behind the ship. Lateral steering allows for more efficient surveys, and yields higher-quality data. CA App. 531, 1281:16-1282:6, 1283:10-1288:2, 1293:3-9, 1294:8-1298:3, 1513:14-1514:10.

After nearly a decade of research and nearly a hundred million dollars of investment, WesternGeco created the "Q-Marine," the first surveying system with lateral steering. CA App. 1776:9-22, 2612:18-2613:7, 2622:9-19.

Rather than selling the Q-Marine system or licensing its patents to competitors, WesternGeco used its invention to perform lateral-steering-enabled surveys *itself* for oil companies. Because no one else had lateral steering, WesternGeco could charge a premium over conventional surveys, and could negotiate directly (rather than bidding) with customers that wanted higher-quality surveys. From 2001 until late 2007, WesternGeco had 100% of the lateral steering market. In 2007 alone, it earned more than $500 million from Q-Marine surveys. CA App. 2695:8-12, 3302:11-23.

2. ION's Infringement

ION is based in Houston. In late 2007, ION began selling a competing survey system. ION shipped components of its system—"DigiFIN" streamer positioning devices and a "Lateral Controller"—from its Louisiana warehouse to surveying companies abroad for those companies to combine the components into a surveying system that undisputedly practices WesternGeco's patents.

Equipped with ION's system, ION's customers would compete directly with WesternGeco for survey contracts. App. 40a; CA App. 7000, 7006, 4474:4-8, 1312:3-1313:9, 1491:9-1492:18. Trial evidence showed that ION's infringement generated over $3 billion for ION and its customers. CA App. 3271:11-17, 10185-86, 10244-45.

Using ION's system, competitors of WesternGeco performed 101 lateral-steering-enabled surveys. WesternGeco lost at least ten specific survey contracts (worth $6 to $45 million each) to ION's customers. App. 40a-41a. But for ION's infringement in violation of § 271(f), the jury found, WesternGeco would have obtained at least those ten contracts. App. 175a (jury verdict). And even for contracts that WesternGeco did obtain, WesternGeco was forced to lower prices to compete with ION's customers. CA App. 1314:22-1315:17, 2695:13-16, 7340.

ION developed its competing system as part of a plan "to compete in the market space that WesternGeco has created." CA App. 8052, 7000, 7006. ION undisputedly knew of WesternGeco's patents before it made its first sale. CA App. 3790:11-16, 3996:20-3997:13. Indeed, ION's customers concluded that surveys using ION's system would infringe WesternGeco patents, and requested indemnity from ION. CA App. 8070-74, 7072-73, 7338, 2099:16-2100:9, 7091-99, 8062-68, 5243:6-5244:16, 8069, 5553:17-5554:13.

C. District Court Proceedings

WesternGeco sued ION for infringement under 35 U.S.C. §§ 271(f)(1) and (f)(2). ION "supplie[d]... from the United States" components "of a patented invention" for combination outside the United States by its

customers, and otherwise met all elements of both subsections of § 271(f).[2]

The jury found ION liable for infringement, and awarded damages, with a $12.5 million royalty component and a $93.4 million lost profits component. App. 170a-175a. The jury also concluded that ION's infringement was willful. App. 174a-175a. The district court upheld the verdict, App. 76a-105a, but did not find "objective" willfulness under the Federal Circuit's governing standard before this Court's decision in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 136 S. Ct. 1923 (2016).

D. Appeals

The court of appeals unanimously affirmed the judgment that ION was liable for infringement and the district court's finding of no objective willfulness. The court rejected ION's challenges to WesternGeco's ownership of some of the patents, App. 28a-35a, and rejected ION's challenge to a pretrial ruling that ION infringed one patent claim under § 271(f). App. 35a-40a (majority decision); App. 54a (dissent, agreeing that ION is liable). The panel, however, divided over the issue of remedies.

1. Reversal of Lost Profits

The panel majority held that the jury's award of lost profits—approximately $93 million of the $106 million award—must be reversed. App. 40a-48a. Relying primarily on the presumption against extraterritoriality and an earlier Federal Circuit decision, *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711

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[2] WesternGeco also sued ION's customer Fugro. Fugro settled during trial.

F.3d 1348 (Fed. Cir. 2013), the majority concluded that profits lost outside of the United States are unavailable as a matter of law despite § 271(f)'s express coverage of combinations abroad arising from U.S. exports. App. 40a-48a.

Power Integrations, however, concerned infringement only under 35 U.S.C. §§ 271(a) and (b)—*not § 271(f)*. The patent covered chips used in electronic power supplies. The patentee sought damages not only for chips made or sold in the United States, but for *worldwide* sales of *all* the defendant's chips—including chips that were entirely manufactured and sold abroad and never entered the United States. *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 589 F. Supp. 2d 505, 510-11 (D. Del. 2008). The foreign sales in *Power Integrations* plainly fell outside of § 271(a). Moreover, those sales did not have the nexus to the United States that § 271(f) requires—namely, export of components from the United States with the requisite intent. Thus, the sales in *Power Integrations*—unlike here—were "not infringement at all" under § 271, and could not be the basis for damages, as the Patent Act provides for "damages adequate to compensate *for the infringement*." 711 F.3d at 1371 (quoting 35 U.S.C. § 284).

Despite these fundamental differences, the panel majority in this case treated *Power Integrations* as legally controlling here. The majority disregarded that infringement under § 271(f) was complete upon ION's export of the components (with the requisite intent that the components be combined abroad). Instead, the majority denied lost profits merely because the survey contracts WesternGeco lost by ION's infringement "were all to be performed on the high seas, outside the

jurisdictional reach of U.S. patent law." App. 41a. The majority found that WesternGeco was "still entitled to a reasonable royalty," App. 45a, but eliminated $93 million of the jury's $105 million damage award. App. 40a-48a, 52a-53a.

Judge Wallach dissented from the reversal of lost profits. App. 54a-75a. In his view, the majority misread *Power Integrations*, conflated damages with liability, failed to account for differences between § 271(a) and § 271(f), and created a "near-absolute bar to the consideration of a patentee's foreign lost profits [that] is contrary to the precedent both of this court and of the Supreme Court." App. 75a.

WesternGeco petitioned for rehearing en banc, which the court denied. App. 176a-177a. Judge Wallach, joined by Judges Newman and Reyna (the author of *Power Integrations*), dissented. App. 178a-180a. The dissent reaffirmed the points made in Judge Wallach's panel dissent, and added that the majority decision was "at odds with the longstanding and analogous 'predicate act' doctrine in the copyright context[, which] holds that a copyright owner 'is entitled to recover damages flowing from the exploitation abroad of ... domestic acts of infringement.'" App. 179a (quoting and citing cases from three circuits).

2. GVR and Remand

WesternGeco petitioned for certiorari, raising two questions:

> 1. Whether the court of appeals erred in holding that damages based on a patentee's so-called "foreign lost profits" are categorically unavailable in cases of patent infringement under 35 U.S.C. § 271(f).

> 2. Whether the Court should hold this petition for *Halo* [*Electronics, Inc. v. Pulse Electronics, Inc.*, No. 14-1513] and *Stryker* [*Corp. v. Zimmer*, No. 14-1520].[3]

Pet. for Cert. at ii, *WesternGeco LLC v. ION Geophysical Corporation*, No 15-1085 (filed Feb. 26, 2016). After this Court decided *Halo* and *Stryker*, it granted WesternGeco's petition and issued a GVR order. 136 S. Ct. 2486 ("Judgment vacated and case remanded to the United States Court of Appeals for the Federal Circuit for further consideration in light of *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, [] 136 S. Ct. 1923 [] (2016).").

On remand, the Federal Circuit panel majority vacated the district court's judgment solely as to the denial of enhanced damages and remanded that limited issue "for further proceedings consistent with this opinion and with the Supreme Court's decision in *Halo*." App. 2a. In all other respects, the Federal Circuit "reinstate[d] [its] earlier opinion and judgment," App. 2a-3a, including as to lost-profit damages. App. 4a-5a & n.1.

Judge Wallach again dissented in part, explaining further why the reinstated portion of the Federal Cir-

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[3] In a clause not at issue in this petition, 35 U.S.C. § 284 provides that "the court may increase the damages up to three times the amount found or assessed." In *Halo* and *Stryker*, this Court overruled the Federal Circuit's legal framework for awarding enhanced damages under 35 U.S.C. § 284. Because the district court and the Federal Circuit had both applied that now-obsolete framework in this case to the question whether to enhance WesternGeco's damages, WesternGeco's petition requested a GVR order on that issue.

cuit's earlier decision established an erroneous rule limiting damages in § 271(f) patent cases. App. 13a-22a. In Judge Wallach's view, ION's challenge to the lost profits portion of the damage award raised "complex factual issues" of proximate cause—i.e., whether there is a sufficient connection between ION's misconduct and WesternGeco's damages. App. 21a-22a. Such factual issues are the province of trial court discretion and jury factfinding, to be reviewed deferentially on appeal. *Id.* Instead, the majority resolved those issues by formulating "[a]n unduly rigid rule barring the district court from considering foreign lost profits even when those lost profits bear a sufficient relationship to domestic infringement." App. 22a. In Judge Wallach's view, the majority's categorical approach—in essence barring lost profits damages in § 271(f) cases—was akin to the "class of unduly rigid rules the Supreme Court has repeatedly cautioned against, including in its [*Halo*] decision that led to the present remand." App. 17a (citations and internal quotation marks omitted).

REASONS TO GRANT THE WRIT

I. The Federal Circuit's Decision is Fundamentally Wrong, Inconsistent With This Court's Precedents, And Misapplies the Presumption Against Extraterritoriality.

A. The Federal Circuit's Decision is Contrary to This Court's Precedent Applying the Presumption Against Extraterritoriality.

The panel majority's decision depends on misconstruction of the Patent Act and a misapplication of the presumption against extraterritorial application of U.S. law. Specifically, the majority relied on a princi-

ple that this Court has never embraced and that is particularly inapposite in the § 271(f) context: that the presumption against extraterritoriality must be applied first to determine what *conduct* subjects a defendant to liability, and then *again* to limit *remedies* once liability is established. App. 41a-48a; *see also Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1306 (Fed. Cir. 2015) (citing the panel's ruling in this case for the proposition that the presumption against extraterritoriality "applies not just to identifying the conduct that will be deemed infringing but also to assessing the damages that are to be imposed for domestic liability-creating conduct.").

The presumption against extraterritoriality is, of course, a well-known canon of statutory construction. *RJR Nabisco, Inc. v. European Cmty.*, 136 S. Ct. 2090, 2100 (2016). The presumption aids courts in "discern[ing] whether an Act of Congress regulating conduct applies abroad." *Kiobel v. Royal Dutch Petroleum Co.*, 133 S. Ct. 1659, 1664 (2013) (emphasis added). Courts presume that statutes regulating conduct do not apply abroad unless traditional tools of statutory interpretation reveal "a clear indication of extraterritorial effect." *RJR Nabisco*, 136 S. Ct. at 2102; *Morrison v. Nat'l Austl. Bank, Ltd.*, 561 U.S. 247, 255 (2010). The presumption is longstanding, *see, e.g.*, *United States v. Palmer*, 16 U.S. (3 Wheat.) 610, 633-34 (1818), and "applies with particular force in patent law." *Microsoft*, 550 U.S. at 453-54.

Section 271(f) provides a "clear indication" that Congress wanted to capture certain conduct with a U.S. nexus and a foreign impact. In particular, Congress treated the export of components from the United States as a sufficient territorial nexus to subject the

exporter to infringement liability for facilitating the combination and sale abroad of those components. To that extent, it is an "exception" to "the general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country." *Microsoft*, 550 U.S. at 441. Of course, the nexus to the United States was critical to Congress' judgment and so the presumption against extraterritoriality is important to determining whether the United States conduct is sufficient to support liability for foreign sales. Thus, in *Microsoft* this Court applied the presumption in concluding that § 271(f)'s reference to "suppl[ying]" "components" of a patented invention did not apply to Microsoft's export of a software master disk for copying abroad. *Id.* at 455-56.

But whatever the scope of *liability* under a statute (given the presumption against extraterritoriality), this Court has not taken the further step of holding that the presumption against extraterritoriality applies yet again to limit *damages*. Rather, this Court's recent cases applying the presumption against extraterritoriality focus on the substantive elements of a statutory cause of action; none purport to apply the presumption again to limit the available damages once liability is established. *See RJR Nabisco*, 136 S. Ct. at 2101-2111 (civil RICO causes of action); *Kiobel*, 133 S. Ct. at 1665-66 (Alien Tort Statute); *Morrison*, 561 U.S. at 262 (conduct prohibited under securities laws); *Microsoft*, 550 U.S. at 454-56 (§ 271(f)); *EEOC v. Arabian Am. Oil Co.*, 499 U.S. 244, 255 (1991) (employment practices).

That double-counting of the presumption against extraterritoriality has no support as a general matter, and it would be particularly inapposite in the context

of § 271(f). Congress was absolutely clear about its intent to reach extraterritorial acts of combination and uses if they followed an export from the United States with the requisite intent. To limit the damages inflicted by those combinations and sales because they occurred abroad is to eviscerate what Congress intended in enacting § 271(f) and overruling *Deepsouth*. If the components were exported from the United States with the requisite intent, then Congress positively wanted to provide a damages remedy for the resulting foreign combinations and sales. While it makes perfect sense to apply the presumption to the condition, it positively frustrates Congress' will to apply it to limit damages where, as here, the condition is satisfied.

The Federal Circuit's approach would allow the presumption against extraterritoriality to swallow most of § 271(f), largely negating the exception created by the statute's plain language. Both subsections of § 271(f) refer to the intended or actively induced "combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States" as part of the definition of infringement. The presumption against extraterritoriality appropriately applies to resolve questions about what actions incur infringement liability under § 271(f). Once infringement liability is established, however, there is no reason to apply the presumption against extraterritoriality *again* to impose artificial limits on the remedies available. It is counterintuitive, to say the least, that such a "combination outside the United States" is part of the definition of infringement, yet the presumption against extraterritoriality forbids *damages* flowing directly from that combination. The court of appeals cited no authority for that proposition other than its own *Power*

Integrations decision. But *Power Integrations* dealt with infringement under § 271(a), which reflects no comparable congressional judgment to target certain extraterritorial conduct as long as a specified nexus to the United States is satisfied.

The panel majority's application of the presumption against extraterritoriality would also swallow the rule of § 284 and *General Motors* that patentees are entitled to "full compensation," and that "element[s] of recovery" should not be limited unless Congress has "said so explicitly." 461 U.S. at 653. *See* § I.B, *infra*. The decision below uses the presumption against extraterritoriality to turn § 284 on its head: if Congress wished to *permit* an element of recovery (such as lost profits) in a § 271(f) case, it must say so explicitly.

Such a rule amounts to a presumption that not only does Congress not legislate extraterritorially—but when it does, it does so as ineffectively as possible. This Court has never endorsed any such principle, and has consistently rejected arguments for a presumption that Congress enacts ineffective or self-defeating laws. *Am. Broad. Cos. v. Aereo, Inc.*, 134 S. Ct. 2498, 2511 (2014); *The Emily*, 22 U.S. 381, 388, 390 (1824); App. 64a n.2 (dissent, noting "the majority's statement ignores the critical distinction between *whether* a defendant is liable and *the amount for which* a defendant is liable").

That is not to say that there are no meaningful limits on damages in patent cases, either generally or in § 271(f) cases in particular. Patent infringement is a tort. *Carbice Corp. v. Am. Patents Dev. Corp.*, 283 U.S. 27, 33, *supplemented* 283 U.S. 420 (1931); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 500-01 (1964). And common-law tort principles such as

proximate cause and foreseeability appropriately cabin damages in patent cases. *See* RESTATEMENT (2D) OF TORTS § 912 (1979); *Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 134 S. Ct. 1377, 1393-94 (2014) (discussing proximate cause). As Judge Wallach's dissenting opinions in this case note, those principles—rather than artificial rules with no statutory basis—should have driven the damages analysis here. App. 17a-22a; App. 66a ("*Power Integrations* ... merely applies the sensible requirement that there be an appropriate connection between the infringing activity and the resulting lost sales.").

B. The Federal Circuit's Decision is Contrary to This Court's Precedents Regarding Damages for Patent Infringement.

The Federal Circuit's categorical bar to lost-profits damages in § 271(f) cases is contrary to the text of § 284 and to this Court's decision in *General Motors*. In *General Motors*, this Court construed § 284 and rejected the argument that interest should only be awarded in exceptional circumstances. 461 U.S. at 656-57. The Court explained that § 284 ensures that a "patent owner would in fact receive *full compensation* for 'any damages' he suffered as a result of the infringement." *Id.* at at 654-55 (emphasis added)). That explanation is consistent with the text of § 284, which makes plain that reasonable royalties are a floor, not a ceiling. That explanation is likewise consistent with the principle that damages for patent infringement—as with most torts—should put the patentee in the position he would have been but for the infringement. *Yale Lock Mfg. Co. v. Sargent*, 117 U.S. 536, 552 (1886) ("the difference between his pecuniary condition after the

infringement, and what his condition would have been if the infringement had not occurred"); *see also Coupe v. Royer*, 155 U.S. 565, 582 (1895); *Aro*, 377 U.S. at 507. And it is inconsistent with the notion that, in adopting § 271(f), Congress contemplated that something less than the full panoply of patent damages would be available.

Indeed, *General Motors* could not be clearer: "When Congress wished to limit an element of recovery in a patent infringement action," *General Motors* explained, "it said so explicitly." 461 U.S. at 653. It did nothing of the sort here. By contrast, in adopting 35 U.S.C. §§ 271(e) (4)(C), (e)(6)(B), Congress did exactly that. The panel majority's approach here is, thus, neither sanctioned by the text of § 284 nor this Court's decision in *General Motors*.

The court of appeals' decision is also contrary to *Goulds Manufacturing Co. v. Cowing*, 105 U.S. 253 (1881), and *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641 (1915). *Goulds* holds that transactions abroad *can* be the basis of an award of lost profits damages for patent infringement. *Goulds* relied in part on gas pumps sold in Canada to calculate an award of lost profits. *Gould* explained that the appellant proved that the profits were, in fact, lost because of the infringement—it could easily, and with reasonable promptness, [have filled] every order that was made" by the defendant. App. 57a-58a (dissent, internally quoting *Goulds*, 105 U.S. at 256). Likewise, *Dowagiac* reaffirmed the rule of *Goulds* by implication, though it rejected a portion of the damages award. Some of the defendants were wholesalers who purchased drills in Canada and resold them in Canada. 235 U.S. at 643, 650. *Dowagiac* distinguished *Goulds*

by noting that in *Goulds* "the defendant made the infringing articles in the United States. Here, while they were made in the United States, they were not made by the defendants." *Id.* at 650; *see also* App. 58a (dissent, discussing *Dowagiac*).

Consistent with the "full compensation" principle articulated in *General Motors*, *Goulds* holds—and *Dowagiac* reaffirms—that so-called "foreign" sales can be the basis of an award of lost profits, *so long as they are tied to infringing activity in the United States.* The law does not require more. The panel majority's holding that "lost profits cannot be awarded" for "lost contracts for services to be performed abroad," App. 40a, is directly contrary to *Goulds* and these basic principles of damages law.

II. The Federal Circuit's Decision Creates a Patent-Specific Rule in Tension With Copyright Law's Predicate Act Doctrine.

As three judges noted in dissenting from denial of rehearing en banc, the decision below conflicts with the longstanding "predicate act" doctrine of copyright law adopted by the regional courts of appeals. App. 178a-179a. This Court should, thus, grant review to resolve this split in approach to closely related areas of law.

Patent law and copyright law have a "historic kinship." *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417, 439 (1984). They come from the same clause of the Constitution. *Accord* U.S. Const. Art. I, § 8; *see Fox Film Corp. v. Doyal*, 286 U.S. 123, 131 (1932). And this Court has historically construed both statutes with reference to the same background principles. *See, e.g.*, *Global-Tech*, 563 U.S. at 763 ("Our decision in *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S.

913 (2005) ... looked to the law of contributory patent infringement for guidance in determining the standard to be applied in a case claiming contributory copyright infringement."); *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006) (addressing injunctions under the Patent Act and noting "[t]his approach is consistent with our treatment of injunctions under the Copyright Act."); *Eldred v. Ashcroft*, 537 U.S. 186, 201-02, 215-17 & n.22 (2003) (examining patent law to inform copyright law question and recognizing that reasoning from one body of law may apply with particular force to the other); *Fox Film*, 286 U.S. at 131 ("[I]n this aspect royalties from copyrights stand in the same position as royalties from the use of patent rights, and what we have said as to ... copyrights applies as well, mutatis mutandis, to patents ....").

In contrast to the rule the panel majority invented for patents in this case, at least three circuits have held that a copyright owner can obtain damages based on foreign sales so long as the initial infringement occurred in the United States and the foreign sales are directly linked to that infringement. *Sheldon v. Metro-Goldwyn Pictures Corp.*, 106 F.2d 45, 52 (2d Cir. 1939) (L. Hand, J.), *aff'd* 309 U.S. 390 (1940); *Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co.*, 682 F.3d 292, 307-08 (4th Cir. 2012); *Los Angeles News Serv. v. Reuters Television Int'l, Ltd.*, 149 F.3d 987, 992 (9th Cir. 1998).[4] No circuits hold otherwise, and dis-

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[4] The Federal Circuit has also acknowledged copyright law's predicate act doctrine. *Halo Creative & Design Ltd. v. Comptoir Des Indes Inc.*, 816 F.3d 1366, 1371 (Fed. Cir. 2016). Two other Circuits have also either acknowledged the doctrine in dictum or applied the same principle without explicitly calling it the "predicate act doctrine." *See Liberty Toy Co. v. Fred Silber Co.*, 149 F.3d 1183 (table), 1998 WL 385469, at *3 (6th Cir. 1998) (unpublished)

trict courts in three other circuits have acknowledged or applied the doctrine.[5]

Tellingly, Judge Hand's opinion in *Sheldon* relied explicitly on *Goulds* and *Dowagiac*—cases from this Court addressing *patent infringement* damages for the operative principle. 106 F.2d at 52. The *Sheldon* defendant produced a movie using copyrighted material, made negatives in the United States, and showed the film abroad. *Id.* Copying the negatives was forbidden by copyright law. *Id.* Thus, *Sheldon* reasoned, "[t]he plaintiffs acquired an equitable interest in [the copies] as soon as they were made, which attached to any profits from their exploitation." *Id.* And because the exhibition abroad was based on copying in the United States, the court "need not decide whether the law of those countries" recognized the plaintiff's copyright. *Id.* (citing *Goulds* and *Dowagiac*). This Court affirmed (albeit without directly addressing the predicate act doctrine). 309 U.S. 390 (1940).

("[A]s long as some act of infringement occurred in the United States, the Copyright Act applies."); *Palmer v. Braun*, 376 F.3d 1254, 1258 (11th Cir. 2004) (per curiam) (citing *Sheldon*)). Over a dissent, the Ninth Circuit in *Los Angeles News Service v. Reuters Television International, Ltd.* recognized the predicate act doctrine, but limited the plaintiff's damages to the infringer's profits. 340 F.3d 926, 931 (9th Cir. 2003); *see also id.* at 932-33 (Silverman, J., dissenting).

[5] *See ICONICS, Inc. v. Massaro*, 192 F. Supp. 3d 254, 262-63 (D. Mass. 2016); *Palmer/Kane LLC v. Houghton Mifflin Harcourt Publ'g Co.*, No. 13-CV-11030, 2014 WL 183774, at *3 (D. Mass. Jan. 16, 2014); *Bavendam v. Pearson Educ., Inc.*, No. 13-CV-3096, 2013 WL 5530008, at *5-*6 (D.N.J. Oct. 3, 2013); *Geophysical Serv. Inc. v. ConocoPhillips Co.*, No. 15-CV-2766, 2016 WL 2839286, at *3-*5 (S.D. Tex. May 13, 2016).

Following *Sheldon*, the Second Circuit has repeatedly reaffirmed the predicate act doctrine, *Update Art, Inc. v. Modiin Publishing, Ltd.*, 843 F.2d 67, 73 (2d Cir. 1988). Other circuits have have also adopted the doctrine, and no circuit to Petitioners' knowledge has rejected it. *See Tire Eng'g*, 682 F.3d at 306 (describing the doctrine as "fundamental"). Each circuit has given due regard to the presumption against extraterritoriality and concluded that that presumption is not violated because the predicate act doctrine is rooted in domestic wrongful conduct and cabined by safeguards such as proximate cause and statutes of limitations. *See, e.g.*, *Tire Eng'g*, 682 F.3d at 306-08; *Palmer*, 376 F.3d at 1258.

To be sure, copyright law and patent law "are not identical twins," doctrine from one area should not be imported unthinkingly into the other, and differences between the statutes must be respected. *Sony*, 464 U.S. at 439 n.19. But nothing in the Patent Act's text or history is incompatible with the principles underlying the predicate act doctrine. Quite the opposite: as noted, Judge Hand's opinion in *Sheldon* relied on two of this Court's patent cases (*Goulds* and *Dowagiac*). Further, Congress' enactment of § 271(f) is an explicit recognition that patentees should have recourse where domestic conduct causes injury abroad. More fundamentally, the Federal Circuit's ruling in this case was not based on any text in the Patent Act, but instead on a judicial assessment that—contrary to the Second, Fourth, Ninth, and Eleventh Circuits in copyright cases—it follows from the presumption against extraterritoriality that damages for so-called "foreign lost profits" cannot lie. There is no principled basis for patent and copyright law to take different approaches, and

this Court should grant certiorari to decide which is correct.

III. The Question Presented Is Important To The Enforcement of Section 271(f).

Section 271(f) is an important provision of the Nation's patent laws, which Congress adopted in response to what was, in its view, an unduly narrow approach to the rights and remedies of patent owners. However, in its decision below, the panel majority has effectively eviscerated one of the principal remedies that Congress provided for infringement under § 271(f). The gap Congress closed by enacting § 271(f) involved combinations and sales abroad. As the dissenting judge explained, by establishing a "near-absolute bar to the consideration of a patentee's foreign lost profits," App. 75a, the panel majority eviscerated Congress' intent to prohibit such acts and provide damages as a remedy.

Here, as in all other patent cases, a patent owner should be able to recover its full measure of damages where the evidence supports it under basic tort-law principles. Indeed, Congress made clear in §284 that reasonable royalties are a floor, not a ceiling. Nothing in the text nor structure of the patent laws supports a § 271(f) exception to those time-tested principles. And it would be particularly anomalous to limit damages for infringement under § 271(f) due to the foreign locus of the combination, because Congress expressly aimed to reach foreign combinations that follow an export from the United States with the requisite intent.

The ability of patentees to collect profits lost due to competition caused by infringement is important to the patent system, and grounded in the Constitution. Under Article I, Section 8, Congress is empowered to offer

limited property rights to inventors as an incentive to innovate: "[F]or limited Times," inventors receive "*the exclusive Right*" to their inventions, after which those inventions become part of the public domain. U.S. Const. Art. I, § 8 (emphasis added).

That exchange (innovation and disclosure in exchange for exclusive property rights) is particularly important where—as it often is, and was here—the cost of inventing is high and the cost of copying is low. *See, e.g.*, Mark A. Lemley, *IP in a World Without Scarcity*, 90 N.Y.U. L. Rev. 460, 482 (2015). A company that recoups its research and development costs by charging $10 for a patented product during the patent term is not made whole by "royalties" from an infringing competitor who can sell essentially at cost, for $1 per product. *See* Fed. Trade Comm'n, GENERIC DRUG ENTRY PRIOR TO PATENT EXPIRATION: AN FTC STUDY at viii (July 2002) ("[A] generic applicant's potential liability for lost profits on the brand-name drug will usually vastly exceed its own potential profits after market entry."). The basic patent bargain promises a monopoly for a reason, and the lost-profits remedy is necessary *ex ante* to induce innovators to undertake the investment necessary to invent. The promised monopoly is dramatically diluted if others can practice the invention right away in exchange for only royalties.

By categorically denying lost profits to patentees whose businesses involve exports, the Federal Circuit creates perverse incentives that are readily apparent. Innovators in WesternGeco's situation considering whether to invest in inventions that are readily broken down into component parts for export and assembly (including on the high seas) will know, *ex ante*, that the patent laws will offer them relatively little protection

even against adjudged infringers under § 271(f). Potential infringers such as ION will know *ex ante* that, for patents whose owners rely on § 271(f), they risk little from infringing those patents other than a potential tax on their profits, in the form of royalty damages. This lowers the risk associated with infringement and thereby discourages fundamental innovations.

Moreover, the Federal Circuit's rule invites domestic manufacturers seeking to avoid or minimize patent liability *to do exactly what was done in Deepsouth*, and engage in the precise conduct that § 271(f) was adopted to deter—avoid assembling infringing products in the U.S. and instead ship U.S.-made components overseas for final assembly. Under the decision below, doing so effectively eliminates the risk of lost-profit damages, leaving only the potential for "royalties" based on the cost of transferring components, rather than "make-whole" damages based on the value of the fully assembled system. Such a pathway to what might be called "efficient infringement" from the infringer's perspective could make even willful infringement palatable, by reducing the threat posed by treble damages. Needless to say, that cannot be what Congress intended when it adopted § 271(f) to close the "loophole" created by *Deepsouth*. 130 CONG. REC. H10525.

Those concerns are not hypothetical; this case vividly illustrates them. WesternGeco developed an invention at substantial cost, and proved to the jury's satisfaction that ION's infringement caused it more than $100 million in lost surveys. WesternGeco is not made whole by "royalties" from a competitor like ION who can profit by selling the competing system for little more than the cost of manufacturing and shipping it. Meanwhile, the evidence showed that ION made a *calculated decision*

to infringe WesternGeco's patents and to structure its business in a way to try to minimize its damages risk. To be clear, ION knew of WesternGeco's patents, ION's customers requested indemnities for these specific patents, and the jury found that ION's infringement was willful. *See Statement of the Case § B.2, supra.* Removing any doubt that the Federal Circuit rendered WesternGeco's victory Pyrrhic at best—and that ION's choice to infringe paid off—ION issued a press release the day the court of appeals' opinion issued upholding the royalty damages but reversing lost profits, hailing the result as "a total victory for our Company."[6]

There can be no doubt that the Federal Circuit's approach substantially undoes Congress' work in enacting § 271(f). Yet, Congress thought this Court's decision in *Deepsouth* significant enough that it enacted § 271(f) in direct response.[7] Legislative history indicates that Congress thought that a legislative solution was necessary to prevent precisely the sorts of perverse incentives the Federal Circuit's decision creates. *See* S. REP. NO. 98-663, at 3 (§ 271(f) is "needed to help maintain a climate in the United States conducive to invention, innovation, and investment."); *Id.* ("Permitting the subterfuge which is allowed under the *Deepsouth* interpretation of the patent law," the Senate Report

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[6] *ION Announces Ruling in Appeal on WesternGeco Patent Infringement Lawsuit* (July 2, 2015) (quoting ION's CEO), *at* http://www.iongeo.com/News_and_Events/Press_Releases/Press_Release/?id=2064596 (last visited Feb. 15, 2017).

[7] *See Microsoft*, 550 U.S. at 442-43; *see also* 130 CONG. REC. H10525 (daily ed. Oct. 1, 1984) (§ 271(f) "responds to ... *Deepsouth*") (Rep. Kastenmeier); S. REP. NO. 98-663, at 2-3 (1984) ("reversal of *Deepsouth*"); 130 CONG. REC. H10525 (§ 271(f) is "a legislative solution to close a loophole in patent law.").

accompanying the final bill explained, "weakens confidence in patents among businesses and investors."). Given this history, it is no surprise that three times in the past decade this Court has requested the Solicitor General's views in cases involving § 271(f). *Microsoft Corp. v. AT&T Corp.*, 547 U.S. 1096 (2006) (CVSG order); *Maersk Drilling USA, Inc. v. TransOcean Offshore Deepwater Drilling, Inc.*, 134 S. Ct. 381 (2013) (CVSG order); *Life Techs. Corp. v. Promega Corp.*, 136 S. Ct. 290 (2015) (CVSG order). In two cases, the Solicitor General urged the Court to grant certiorari, while the third settled before the Solicitor General filed a brief. In both briefs, the Solicitor General emphasized the importance of § 271(f) and the serious consequences of the Federal Circuit tampering with the balance of incentives Congress struck in that statute. Br. of United States as Amicus Curiae at 17-19, *Microsoft Corp. v. AT&T Corp.*, No. 05-1056 (filed Sept. 29, 2006); Br. of United States as Amicus Curiae at 20-21, *Life Technologies Corp. v. Promega Corp.*, No. 14-1538 (filed May 11, 2016).

The Federal Circuit's ruling in this case is much more far-reaching than *Microsoft* or *Life Technologies*. In contrast to those cases, the ruling here is categorical. It affects the *scope of remedies* available in virtually all § 271(f) cases. What Congress gave patentees with § 271(f), the court of appeals largely took away by sharply limiting the remedies available to patentees who might rely on it. Whereas § 284 provides patentees with reasonable royalties as a floor —"in no event *less* than a reasonable royalty for the use of the invention made by the infringer"—the court of appeals has effectively converted that floor into a ceiling for victims of § 271(f) infringement. *See* App. 45a. When Congress wants to limit a patent owner to reasonable roy-

alty damages, it knows exactly how to do so. *See, e.g.*, 35 U.S.C. § 271(e)(6)(B) . It did nothing of the sort here, and neither the text of § 271(f) nor § 284 supports the curtailment of patent damages adopted by the panel majority. Thirty years after Congress legislated to overrule *Deepsouth*, it should not be forced to pass new legislation to say "we really mean it."

CONCLUSION

The petition for a writ of certiorari should be granted.

FEBRUARY 2017

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APPENDIX

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

WesternGeco L.L.C.,
Plaintiff-Cross-Appellant,
v.
ION Geophysical Corporation,
Defendant-Appellant.

WesternGeco L.L.C.,
Plaintiff-Appellant,
v.
ION Geophysical Corporation,
Defendant-Appellee.

Nos. 2013-1527, 2014-1121, 2014-1526, 2014-1528

September 21, 2016

Before DYK, WALLACH, and HUGHES, *Circuit Judges*.

Opinion

Opinion dissenting in part filed by *Circuit Judge* WALLACH.

DYK, *Circuit Judge*.

This case returns to us on vacatur and remand from the Supreme Court, "for further consideration in light of *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 579 U.S. —— (2016)." *WesternGeco LLC v. ION ION Geophysical Corp.*, 136 S. Ct. 2486 (2016) (Mem.). On remand, we vacate the district court's judgment with respect to enhanced damages for

willful infringement under 35 U.S.C. § 284 and reinstate our earlier opinion and judgment in all other respects. We remand for further proceedings consistent with this opinion and with the Supreme Court's decision in *Halo*.

BACKGROUND

The vacated decision, *WesternGeco L.L.C. v. ION Geophysical Corp.* ("*WesternGeco II*"), 791 F.3d 1340 (Fed. Cir. 2015), addressed a patent infringement suit by WesternGeco L.L.C. ("WesternGeco") against ION Geophysical Corp. ("ION") for infringement of, *inter alia*, U.S. Patent Nos. 6,691,038, 7,080,607, 7,162,967, and 7,293,520. *See WesternGeco L.L.C. v. ION Geophysical Corp.* ("*WesternGeco I*"), 953 F. Supp. 2d 731 (S.D. Tex. 2013). The jury found infringement and no invalidity as to all asserted claims and awarded WesternGeco $93.4 million in lost profits and a reasonable royalty of $12.5 million. The jury also found that ION's infringement had been subjectively reckless under the "subjective" prong of the then-prevailing two-part test articulated in *In re Seagate, LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc).

After trial, WesternGeco moved for enhanced damages for willful infringement under 35 U.S.C. § 284. ION moved for judgment as a matter of law ("JMOL") of no willful infringement, contending that WesternGeco had failed to prove that it was either objectively or subjectively reckless in its infringement. The district court held that ION was not a willful infringer meriting enhanced damages, finding that ION's positions were reasonable and not objectively baseless and thus that the objective prong

of the *Seagate* test had not been satisfied. *WesternGeco I*, 953 F. Supp. 2d at 753. Because the district court found no objective recklessness on the part of ION, it did not reach ION's JMOL motion seeking to set aside the jury's finding of subjective recklessness. *Id.*

ION appealed to our court, asking us, *inter alia*, to reverse the district court's award of lost profits. WesternGeco cross-appealed, challenging the district court's refusal to award enhanced damages. Our opinion issued on July 2, 2015. *WesternGeco II*, 791 F.3d at 1340. In section III of that opinion, we reversed the lost profits award, holding that WesternGeco was not entitled to lost profits resulting from foreign uses of its patented invention. *Id.* at 1351. On this issue Judge Wallach dissented. *Id.* at 1354 (Wallach, J., dissenting-in-part). In section V of the opinion of the court, we unanimously affirmed the district court's denial of WesternGeco's motion for enhanced damages, holding that ION's noninfringement and invalidity defenses were not objectively unreasonable and, as such, we agreed with the district court that the objective prong of the *Seagate* test had not been met. *Id.* at 1353–54.

WesternGeco petitioned for certiorari on February 26, 2016. Petition for Writ of Certiorari, *WesternGeco, LLC v. ION Geophysical Corp.*, 2016 WL 792196 (U.S. Feb. 26, 2016) (No. 15–1085) ("Petition"). The petition, *inter alia*, requested that the petition be held in view of *Halo Electronics, Inc. v. Pulse Electronics, Inc.* and *Stryker Corp. v. Zimmer, Inc.*, which were argued February 23, 2016, and involved the standard for enhanced damages.

WesternGeco's petition argued that "[i]f the result of *Halo* and *Stryker* is other than a complete affirmance and approval of Federal Circuit law, the Court should grant certiorari, vacate, and remand [("GVR")] for further consideration." *Id.* at *31.

The Supreme Court decided *Halo* on June 13, 2016. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. – ——, 136 S. Ct. 1923 (2016). The Supreme Court granted certiorari in this case and issued its GVR order on June 20, 2016, remanding the case to us "for further consideration in light of *Halo*." *WesternGeco*, 136 S. Ct. at 2486. We recalled our mandate on July 25, 2016. We now consider what action is appropriate in this case in view of the Supreme Court's remand.

DISCUSSION

The Supreme Court's *Halo* decision was solely concerned with the question of enhanced damages for patent infringement under 35 U.S.C. § 284 and does not affect other aspects of our earlier opinion.[1] As

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[1] The opinion dissenting-in-part "join[s] the majority's opinion to the extent it applies the Supreme Court's decision in *Halo* on the issue of enhanced damages for willful infringement under 35 U.S.C. § 284 (2012)," but disagrees on the issue of lost profits, "for the reasons articulated in [the] original dissent." Dissent at 1365. In fact, the issue of lost profits is not properly before us. WesternGeco's petition for certiorari presented two questions. Petition, 2016 WL 792196, at *ii. The first was lost profits—namely, "[w]hether the court of appeals erred in holding that damages based on a patentee's so-called 'foreign lost profits' are categorically unavailable in cases of patent infringement under 35 U.S.C. § 271(f)." *Id.* The second was "[w]hether the Court should hold this Petition for *Halo* and *Stryker*." *Id.* The scope of the Supreme Court's GVR order was

such, we reinstate our earlier opinion except for section V. Section V of our earlier opinion was specifically directed to the question of enhanced damages, and it is that section that we now revisit.

I

Before *Halo*, under our court's two-part *Seagate* test, a patentee seeking enhanced damages for willful infringement was required to prove both an objective and a subjective prong. Under the objective prong, a patentee was required to "show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." *Seagate*, 497 F.3d at 1371. "If this threshold objective standard [was] satisfied," the patentee was then required to prove subjective recklessness, i.e., to "demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer." *Id.* If the patentee proved both

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limited to the second question. *WesternGeco*, 136 S. Ct. at 2486. "The general rule is that, when the Supreme Court remands in a civil case, the court of appeals should confine its ensuing inquiry to matters coming within the specified scope of the remand." *Kotler v. Am. Tobacco Co.*, 981 F.2d 7, 13 (1st Cir. 1992); *see also, e.g.*, *Escalera v. Coombe*, 852 F.2d 45, 47 (2d Cir. 1988) (upon GVR, "[a]ny reconsideration at this juncture of our earlier opinion must be limited to the scope of the Supreme Court's remand"); *Hermann v. Brownell*, 274 F.2d 842, 843 (9th Cir. 1960) (on remand, "the jurisdiction of this Court is rigidly limited to those points, and those points only, specifically consigned to our consideration by the Supreme Court").

prongs of willful infringement, the ultimate determination of whether to award enhanced damages under § 284 and the extent of any enhancement were left to the district court's discretion. *See id.* at 1368 ("[A] finding of willfulness does not require an award of enhanced damages; it merely permits it.").

The Supreme Court's decision in *Halo* overturned the *Seagate* test because it " 'is unduly rigid, and it impermissibly encumbers the statutory grant of discretion to the district courts.' " 136 S. Ct. at 1932 (quoting *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1755 (2014)). *Halo* held that district courts must have greater discretion in awarding enhanced damages in cases where the defendant's infringement was egregious, cases "typified by willful misconduct." *Id.* at 1934. "The *Seagate* test reflects, in many respects, a sound recognition that enhanced damages are generally appropriate under § 284 only in egregious cases." *Id.* at 1932.

But, the Court held, "[t]he principal problem with *Seagate*'s two-part test is that it requires a finding of objective recklessness in every case before district courts may award enhanced damages." *Id.* In particular, the Court rejected *Seagate*'s strict requirement that a patentee prove the objective unreasonableness of an infringer's defenses. *Id.*; *see WBIP, LLC v. Kohler Co.*, No. 15–1038, 829 F.3d 1317, 1341, 2016 WL 3902668, at *15 (Fed. Cir. July 19, 2016) (under *Halo*, "[p]roof of an objectively reasonable litigation-inspired defense to infringement is no longer a defense to willful

infringement"). At the same time, *Halo* did not disturb the substantive standard for the second prong of *Seagate*, subjective willfulness. Rather, *Halo* emphasized that subjective willfulness alone—i.e., proof that the defendant acted despite a risk of infringement that was " 'either known or so obvious that it should have been known to the accused infringer,' " *Halo*, 136 S. Ct. at 1930 (quoting *Seagate*, 497 F.3d at 1371)—can support an award of enhanced damages. "The subjective willfulness of a patent infringer, intentional or knowing, may warrant enhanced damages, without regard to whether his infringement was objectively reckless." *Id.* at 1933; *see also id.* at 1930 (describing the second prong of *Seagate* as an evaluation of the infringer's "subjective knowledge").

Additionally, the Court stressed throughout *Halo* that, if willfulness is established, the question of enhanced damages must be left to the district court's discretion. So too, *Halo* stressed that "[a]wards of enhanced damages ... are not to be meted out in a typical infringement case, but are instead designed as a 'punitive' or 'vindictive' sanction for egregious infringement behavior." *Id.* at 1932. "[N]one of this is to say that enhanced damages must follow a finding of egregious misconduct. As with any exercise of discretion, courts should continue to take into account the particular circumstances of each case in deciding whether to award damages, and in what amount. Section 284 permits district courts to exercise their discretion in a manner free from the inelastic constraints of the *Seagate* test." *Id.* at 1933–34. On remand from the Supreme Court, our court recently reconsidered

enhanced damages in the case of *Halo* itself and, in returning the issue to the district court, emphasized the district court's discretion. *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, No. 13–1472, 831 F.3d 1369, 1381–1381–82, 2016 WL 4151239, at *10 (Fed. Cir. Aug. 5, 2016).

After *Halo*, the objective reasonableness of the accused infringer's positions can still be relevant for the district court to consider when exercising its discretion. *Halo* looked to *Octane Fitness* for the relevant standard. *Halo*, quoting *Octane Fitness*, held that there is " 'no precise rule or formula' " to determine whether enhanced damages should be awarded and that district courts should generally " 'exercise[ ] [their discretion] in light of the considerations' underlying the grant of that discretion." *Halo*, 136 S. Ct. at 1932 (quoting *Octane Fitness*, 134 S. Ct. at 1756). *Octane Fitness* in turn held that, in determining whether to award attorney's fees under § 285, a district court should "consider[ ] the totality of the circumstances." *Octane Fitness*, 134 S. Ct. at 1756. In that connection *Octane Fitness* relied on "the comparable context of the Copyright Act," *id.* noting that "[i]n *Fogerty v. Fantasy, Inc.*, for example, [the Court] explained that in determining whether to award fees under a similar provision in the Copyright Act, district courts could consider a 'nonexclusive' list of 'factors,' including 'frivolousness, motivation, *objective unreasonableness* (both in the factual and legal components of the case) and the need in particular circumstances to advance considerations of compensation and deterrence,' " *id.* at 1756 n.6 (emphasis added and internal citation omitted).

Thus, objective reasonableness is one of the relevant factors. In short, as the Supreme Court itself has said, district courts should exercise their discretion, "tak[ing] into account the particular circumstances of each case," and consider all relevant factors in determining whether to award enhanced damages. *Halo*, 136 S. Ct. at 1933–34.

II

Here, in granting ION's motion for JMOL of no willful infringement, the district court found that WesternGeco had not proved that ION's defenses to infringement were objectively unreasonable and consequently concluded that the first, objective prong of the *Seagate* test had not been met. *WesternGeco I*, 953 F. Supp. 2d at 751. As *Halo* has rejected the *Seagate* rule that a patentee's failure to establish the objective recklessness of the defendant's infringement precludes a finding of willfulness, we must vacate the district court's determination of no willful infringement by ION.

On remand the district court must consider two questions. The first of these is subjective willfulness. The jury here was instructed on the *Seagate* standard for subjective willfulness.[2] The jury

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[2] The jury was instructed to determine whether ION acted recklessly and to "consider all facts," including "(1) Whether or not the infringer acted in accordance with the standards of commerce for its industry; (2) Whether or not there is a reasonable basis to believe that the infringer did not infringe or had a reasonable defense to infringement; (3) Whether or not the infringer made a good-faith effort to avoid infringing the patent such as attempting to design a product the infringer

jury found that WesternGeco had "prove[d] by clear and convincing evidence that ION actually knew, or it was so obvious that ION should have known, that its actions constituted infringement of a valid patent claim." J.A. 77. We note that ION's renewed motion for JMOL contended that the jury's verdict of subjective willfulness was unsupported by substantial evidence. ION argued that "no reasonable jury could conclude that the subjective-subjective-prong of the willfulness inquiry was established by clear and convincing evidence." *WesternGeco I*, No. 4:09-cv-01827, ECF No. 559, at 16 (ION's renewed motion for JMOL of no willful infringement of Sept. 28, 2012). On remand, the district court must review the sufficiency of this evidence as a predicate to any award of enhanced damages, mindful of *Halo*'s replacement of *Seagate*'s clear-and-convincing evidence standard with the "preponderance of the evidence standard." *Halo*, 136 S. Ct. at 1934.[3]

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believed did not infringe; [and] (4) Whether or not the infringer tried to cover up its infringement." J.A. 11096.

[3] ION did not waive its challenge to the willfulness verdict based on the lack of subjective willfulness by failing to raise it on the first appeal. At the time of the first appeal it had raised the issue in a JMOL motion but the district court did not decide that issue (the district court having ruled that there was a lack of objective willfulness, a ground then sufficient to set aside the willfulness verdict). *Laitram Corp. v. NEC Corp.*, 115 F.3d 947 (Fed. Cir. 1997) is similar to this case. There the jury found both infringement and willfulness. *Id.* at 949. The district court entered JMOL of non-infringement and did not reach the issue of willfulness. *Id.* On the patentee's appeal we reversed the judgment of non-infringement and remanded. *Id.* On a second appeal by the accused infringer the question was whether the accused infringer had waived a challenge to willfulness (and

The second issue that the district court must consider on remand, if the jury's finding of willful infringement is sustained, is whether enhanced damages should be awarded. *Halo* emphasized that the question of enhanced damages under § 284 is one that must be left to the district court's discretion. The district court, on remand, should consider whether ION's infringement constituted an "egregious case[ ] of misconduct beyond typical infringement" meriting enhanced damages under § 284 and, if so, the appropriate extent of the enhancement. *Id.* at 1935.

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enhanced damages) by failing to argue it as an alternative ground on the first appeal. *Id.* at 953–54. We held that there was no waiver because the jury's finding of willfulness was "neither [itself] on appeal nor relevant to the sole issue that was: infringement ... [and] properly considered moot—until the reversal of JMOL of non-infringement" on appeal. *Id.* at 954; *see also Eichorn v. AT&T Corp.*, 484 F.3d 644, 657–58 (3d Cir. 2007); *Indep. Park Apartments v. United States*, 449 F.3d 1235, 1240–41 (Fed. Cir. 2006); *Crocker v. Piedmont Aviation, Inc.*, 49 F.3d 735, 738–41 (D.C. Cir. 1995).

Thus, this case is distinguishable from our recent decision in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, where the accused infringer failed to raise the issue at the JMOL stage in district court or "challenge the propriety of the jury finding of subjective willfulness" on appeal. No. 13–1472, 831 F.3d at 1381, 2016 WL 4151239, at *10 (Fed. Cir. Aug. 5, 2016). We do not suggest that appellees in the future can avoid waiver by limiting discussion on the first appeal to just one aspect of the overall issue of enhanced damages since under the Supreme Court's decision in *Halo*, objective and subjective willfulness are no longer distinct issues.

CONCLUSION

For the foregoing reasons, we vacate the judgment of the district court of no willful infringement by ION and remand for further consideration of enhanced damages under § 284. As to other aspects of the district court's judgment, we hereby reinstate those aspects of our earlier judgment set forth in sections I–IV of our earlier opinion, which were not affected by the Supreme Court's order.

AFFIRMED-IN-PART, REVERSED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

Costs to neither party.

WALLACH, Circuit Judge, *dissenting-in-part*.

I join the majority's opinion to the extent it applies the Supreme Court's decision in *Halo* on the issue of enhanced damages for willful infringement under 35 U.S.C. § 284 (2012). *See Halo Elecs. Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). However, for the reasons articulated in my original dissent, *see WesternGeco L.L.C. v. ION Geophysical Corp. (WesternGeco II)*, 791 F.3d 1340, 1354–64 (Fed. Cir. 2015) (Wallach, J., dissenting-in-part), I dissent-in-part from today's panel opinion, which reinstates our earlier opinion "in all other respects." Maj. Op. at 1360.

The majority misunderstands the import of its prior holding, stating that my original dissent-in-part was from the panel's "holding that WesternGeco was not entitled to lost profits resulting from foreign uses of its patented invention." *Id.* at 1360. It is of course uncontroversial that patentees are not entitled to lost profits resulting from foreign uses of a patented invention. *See Brown v. Duchesne*, 60 U.S. (19 How.) 183, 195–96 (1856) ("[T]he use of [the invention] outside of the jurisdiction of the United States is not an infringement of his rights, and he has no claim to any compensation for the profit or advantage the party may derive from it.").

Patentees are entitled, however, to lost profits resulting from infringement under the laws of the United States, which is what the jury found below, *WesternGeco II*, 791 F.3d at 1342 ("The jury found infringement...."), what the district court found, *id.*

at 1343 ("[T]he [district] court granted summary judgment of infringement."), and what was affirmed by this court on appeal, *id.* at 1347–49 (noting, inter alia, "the correctness of the infringement finding").

The key issue left unaddressed in the now-now-reinstated opinion's analysis is: When a patent holder successfully demonstrates both patent infringement under United States law and foreign lost profits, what degree of connection must exist between the two before the foreign activity may be used to measure the plaintiff's damages?[1] Put

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[1] According to the majority, "the issue of lost profits is not properly before [this court]," Maj. Op. at 1361 n.1, because "[t]he scope of the Supreme Court's [grant certiorari, vacate, and remand ('GVR')] order was limited to the second question [presented]," i.e., " '[w]hether the Court should hold this Petition for *Halo* and *Stryker* [*Corp. v. Zimmer, Inc.*, 136 S. Ct. 356 (2015) (mem.)],' " *Id.* (quoting Petition for Writ of Certiorari, *WesternGeco LLC v. ION Geophysical Corp.*, No. 2015-1085, 2016 WL 792196, at *1 (U.S. Feb. 26, 2016)). However, the majority reads the Supreme Court's GVR Order too narrowly. First, although the Supreme Court did not grant certiorari on the question of foreign lost profits in *Halo*, "a denial of certiorari has no precedential value." *Cty. of Sonoma v. Isbell*, 439 U.S. 996, 996 (1978). Second, the Order does not limit this court's review to a specific issue or question presented, as many GVR orders do. *See, e.g.*, *Herrmann v. Rogers*, 358 U.S. 332, 332 (1959) (limiting the appellate court's review on remand to a finite issue of Idaho property law). The GVR Order, in its entirety, provides:

> On petition for writ of certiorari to the United States Court of Appeals for the Federal Circuit. Petition for writ of certiorari granted. Judgment vacated, and case remanded to the United States Court of Appeals for the Federal Circuit for further consideration in light of *Halo*....
>
> Justice ALITO took no part in the consideration or decision of this petition.

another way, left unanswered is the question of where we must draw the line as to when patented products or services made, used, or sold abroad (or some combination of these) may be considered in calculating damages flowing from infringement under Title 35 of the United States Code. The issue is not one of infringement, where foreign use generally does not count,[2] but one of damages, where it may.

WesternGeco LLC v. ION Geophysical Corp., 136 S. Ct. 2486 (2016). The Supreme Court's only directive was that this court reconsider the prior opinion "in light of *Halo*," *id.* which overturns the two-part test for enhanced damages and the tripartite framework for appellate review in *In re Seagate Technology, LLC*, 497 F.3d 1360 (Fed. Cir. 2007) (en banc). *See generally Halo*, 136 S. Ct. 1923 (2016). The Supreme Court neither directly addressed the merits of this court's holding on the issue of damages associated with both infringement under United States law and use on the high seas, nor does it preclude their consideration. *See Halo Elecs., Inc. v. Pulse Elecs., Inc.*, Nos. 2013–1472, –1656, 831 F.3d 1369, 1373, 2016 WL 4151239, at *2 (Fed. Cir. Aug. 5, 2016) ("[T]he Supreme Court's review was limited to the issue of enhanced damages and left undisturbed the judgments on other issues...."); *see also* Maj. Op. at 1361 ("The Supreme Court's *Halo* decision was solely concerned with the question of enhanced damages for patent infringement under 35 U.S.C. § 284 and does not affect other aspects of our earlier opinion." (footnote omitted)).

[2] Indeed, even in the infringement context, "foreign activity ... can have an impact on the rights of a United States patent owner." *Lexmark Int'l, Inc. v. Impression Prods., Inc.*, 816 F.3d 721, 784 (Fed. Cir. 2016) I (en banc) (10-2 decision) (Dyk, J., dissenting).

Rather than grapple with this difficult question of proximity, the majority avoids it altogether, considering the foreign lost profits in this case to relate solely to foreign use and to be wholly disconnected from the infringement found by the jury. By reinstating our earlier decision, the majority repeats, out of context, the statement from *Power Integrations* that " 'the entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement.' " *WesternGeco II*, 791 F.3d at 1351 (quoting *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1371–72 (Fed. Cir. 2013)).[3]

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[3] As recognized elsewhere in *Power Integrations*, the central issue in foreign lost profits cases is not whether the use or sale is "entirely extraterritorial," but the nature and degree of connection between the underlying infringement and the (perhaps entirely extraterritorial) foreign activity that most proximately led to the lost profits. *See* 711 F.3d at 1371 (noting that plaintiffs cited no case law supporting the use of "sales consummated in foreign markets, *regardless of any connection* to infringing activity in the United States," when calculating damages (emphasis added)); *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 589 F. Supp. 2d 505, 511 (D. Del. 2008) (expressing concern that the "estimate [of the plaintiff's expert witness] of $30 million in damages was *not* related to parts that were manufactured, used, or sold in the United States by [the defendant]").

The statement in *Power Integrations*, however, addressed the patentee's argument that "having established one or more acts of direct infringement in the United States," the plaintiff should be able to "recover damages for [the defendant's] worldwide sales of the patented invention because those foreign sales were the direct, foreseeable result of [the defendant's] domestic infringement." 711 F.3d at 1371. If the statement is read too broadly, such that it prohibits any consideration of foreign activities when measuring damages, it conflicts with Supreme Court precedent holding that ordinary sales abroad can in some cases be used to measure damages resulting from domestic infringement. *See Goulds' Mfg. Co. v. Cowing*, 105 U.S. 253, 254–55 (1881); *Dowagiac Mfg. Co. v. Minn. Moline Plow Co.*, 235 U.S. 641, 650 (1915) (discussing *Goulds*'); *see also WesternGeco L.L.C. v. ION Geophysical Corp.*, 621 Fed. App'x 663, 664 (Fed. Cir. 2015) (9-3 decision denying the petition for rehearing en banc) (Wallach, J., dissenting); *WesternGeco II*, 791 F.3d at 1354–64 (Wallach, J., dissenting-in-part). Such a conflict should serve as a red flag, indicating that the approach taken by the panel may belong to the class of " 'unduly rigid' " rules the Supreme Court has repeatedly cautioned against, including in its decision that led to the present remand. *Halo*, 136 S. Ct. at 1932 (quoting *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1755 (2014)).

Not only is the approach taken by the majority unduly rigid, it is in substantial tension with Supreme Court guidance on the specific issue of (1) infringement under United States law followed by (2) use on the high seas. *Duchesne*—the very case cited

by the majority for the proposition that lost profits based on foreign use are not compensable—compensable—illuminates at least one circumstance under which such foreign use *is* "compens[able]": Where the patented invention is "manufactured" or "sold" in the United States, the defendant is "justly answerable for" the resulting "advantage which [he] derived from the *use* of th[e] improvement ... *on the high seas*." 60 U.S. (19 How.) at 196 (emphases added); *see also WesternGeco II*, 791 F.3d at 1362 (Wallach, J., dissenting-in-part) (discussing *Duchesne*). The compensation in such a case is not for the foreign use itself, but for the damages caused when the defendant "diminished the value of [the plaintiff's] property" by "compet [ing] with the plaintiff," in the United States, "where the plaintiff *was* entitled to ... exclusive use." *Duchesne*, 60 U.S. (19 How.) at 196 (emphasis added).

In reinstating its earlier decision, the majority expresses no concern for the consequences that may result from that decision. Creative lawyers, for example, may seek to insulate their clients from infringement liability by structuring market transactions so as to distance the infringer from the foreign activities, seeking to mirror the present case in which ION sells the device in question "to its customers, who perform surveys" on the high seas "on behalf of oil companies." *WesternGeco II*, 791 F.3d at 1343. When done for liability-avoidance reasons, such a change in form can increase costs without altering the underlying economic substance of the transaction.

Such efforts—and perhaps other unforeseen

industry responses—would not only be wasteful, but would also result in unfairness to the patent owner, whose loss from the infringement remains the same regardless of the number of entities involved or the complexity of the underlying transactions. So long as there is a sufficient connection between the infringement and the foreign activity, plaintiffs who successfully establish infringement under United States law should be able to rely on foreign activities to measure those damages adequate to "return the patent owner to the financial position he would have occupied but for the infringement." *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 881 (Fed. Cir. 1995).

Formulating a proper proximity standard—standard—i.e., a standard that can be used to determine the sufficiency of the connection between infringement under United States law and foreign lost profits—is no easy task. There are some guideposts, however. For example, our case law has established that a party will not necessarily be able to recover damages equal to lost foreign sales simply because those lost sales would not have occurred "but for" the domestic infringement. *Power Integrations*, 711 F.3d at 1370 (finding the connection insufficient despite the argument of Power Integrations that it was entitled to damages based upon lost foreign sales it "would have made *but for* Fairchild's domestic infringement" (emphasis added)). It has established that "[w]here a physical product is being employed to measure damages for the infringing use of patented methods," the patentee may recover "when and only when" one of the actions specified in 35 U.S.C. § 271(a) (e.g., selling) "for that unit" takes

place in the United States, "even if others of the listed activities for that unit (*e.g.*, making, using) take place abroad." *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1306 (Fed. Cir. 2015).

A unifying theme from these cases and others cited in my original dissent is that the appropriate measure of damages must bear some relation to the extent of the infringement in the United States. Thus, on the one hand, where the volume of non-infringing sales is independent of the extent of United States infringement, those sales should not be used as a measure of damages flowing from the domestic infringement. For example, where a product is designed in the United States by an "infringing use of [the] patented method[ ]," *id.* and units of the product are then "manufactured, sold, and used abroad," the number of units produced abroad bears little or no relationship to the extent of the infringement in the United States, *id.* at 1305 (internal quotation marks and citation omitted). This is because once a product is designed, an unlimited number of non-infringing units may be produced from that design.

At the other extreme, there may be a one-to-one-to-one relationship, or nearly so, between the infringement in the United States and the non-non-infringing foreign activity. In this case, each non-infringing unit or activity bearing such a one-to-one-to-one relationship with the infringing unit or activity is relevant to the damages calculation. *See, e.g., R.R. Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1519 (Fed. Cir. 1984) (Where a certain number

of infringing "carsets" are manufactured in the United States and that same number is sold in a foreign country, each non-infringing foreign sale is relevant.); *cf. State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1575 (Fed. Cir. 1989) (Where a patented method is used to produce each non-non-infringing water heater, the number of water heaters sold is relevant to the damages calculation.).

The present case appears to lie somewhere in between these extremes. As described by the majority, the patent-practicing devices sold by ION are combined (and then used) in non-infringing streamer systems on the high seas, in a manner that would infringe if the combination occurred within the United States. *See WesternGeco II*, 791 F.3d at 1348. Because each streamer system contains some number of devices, *id.* at 1343, the volume of infringing activity in the United States bears some relationship to the number of streamer systems used on the high seas, and the number of streamer systems in turn bears some relationship to the volume of lost sales. At the same time, however, because a given streamer system could presumably be used more than once, the volume of infringing activity in the United States may not bear a one-to-one relationship with the volume of lost sales. As with damages questions generally, complex factual issues such as these may exist regarding the relationship between the infringing acts and the units or activities used to measure the patentee's resulting losses.

The importance of such complex factual issues to the damages calculation explains why discretion is

afforded to district courts and juries in arriving at an appropriate damages figure. *See AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1333 (Fed. Cir. 2015) ("The amount of damages awarded to a patentee ... is ... reviewed for *clear error*, while the methodology underlying the court's damages computation is reviewed for *abuse of discretion*." (emphases added)); *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1310 (Fed. Cir. 2009) ("We review the jury's determination of the amount of damages, an issue of fact, for *substantial evidence*." (emphasis added)). An unduly rigid rule barring the district court from considering foreign lost profits even when those lost profits bear a sufficient relationship to domestic infringement improperly cabins this discretion, encourages market inefficiency, and threatens to deprive plaintiffs of deserved compensation in appropriate cases. Accordingly, I again respectfully dissent-in-part.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

WESTERNGECO L.L.C.,
Plaintiff–Cross–Appellant
v.
ION GEOPHYSICAL CORPORATION,
Defendant–Appellant.

Nos. 2013–1527, 2014–1121, 2014–1526, 2014–1528

July 2, 2015.

Before DYK, WALLACH, and HUGHES, *Circuit Judges*.

Opinion

Opinion for the court filed by *Circuit Judge* DYK. Dissenting-in-part opinion filed by *Circuit Judge* WALLACH.

DYK, *Circuit Judge*.

WesternGeco L.L.C. ("WesternGeco") filed suit against ION Geophysical Corp. ("ION") for infringement of, *inter alia*, U.S. Patent Nos. 6,691,038 ("the '038 patent"), 7,080,607 ("the '607 patent"), 7,162,967 ("the '967 patent"), and 7,293,520 ("the '520 patent"). The jury found infringement and no invalidity with respect to all asserted claims for each of the four patents, and awarded $93,400,000 in lost profits and $12,500,000 in reasonable royalties.

ION appeals, arguing that WesternGeco is not the owner of the '607, '967, and '520 patents and therefore lacks standing to assert them; that the district court applied an incorrect standard in granting summary judgment as to claim 18 of the '520 patent under 35 U.S.C. § 271(f)(1) and that this ruling infected the trial with respect to liability for all other claims; and that lost profits were impermissibly awarded for conduct abroad.

WesternGeco conditionally cross-appeals, arguing that, if we find in favor of ION with respect to any of its appealed issues, we should set aside the damages award because the district court erred in preventing WesternGeco's damages expert from testifying on the issue of a reasonable royalty. WesternGeco also challenges the district court's refusal to award enhanced damages for willful infringement.

We affirm in all respects, except that we reverse the district court's award of lost profits resulting from conduct occurring abroad.

BACKGROUND

WesternGeco asserts that it owns the four patents at issue: the '038 patent, the '607 patent, the '967 patent, and the '520 patent. The asserted claims of all four patents are system claims relating to technologies used to search for oil and gas beneath the ocean floor. To search for oil and gas, ships tow a series of long streamers. Each streamer is equipped with a number of sensors. An airgun bounces sound

waves off of the ocean floor. The sensors pick up the returning sound waves and, in combination with each other, create a map of the subsurface geology. This generated map can aid oil companies in identifying drilling locations for oil or gas.

The streamers can be miles in length, and vessel movements, weather, and other conditions can cause the streamers to tangle or drift apart. This, in turn, can cause the sensors on the streamers to generate imperfect or distorted maps. The patents here relate to two improvements to that technology: first, controlling the streamers and sensors in relation to each other through the use of winged positioning devices; second, using the sensors to generate four-dimensional maps—that is, maps in which it is possible to see changes in the seabed over time.

Both parties are involved in this industry. WesternGeco manufactures its commercial embodiment of the patented technologies, the Q–Marine, and performs surveys on behalf of oil companies. ION manufactures its allegedly patent-practicing device, the DigiFIN, and sells that device to its customers, who perform surveys on behalf of oil companies.

On June 12, 2009, WesternGeco filed suit against ION, accusing ION of willfully infringing various claims of four patents. WesternGeco's theory of infringement was based on, *inter alia*, 35 U.S.C. § 271(f)(1) and § 271(f)(2). Broadly speaking, (f)(1) prohibits supplying a substantial portion of the

components of a patented system in a manner that actively induces their combination abroad, and (f)(2) prohibits supplying components that are especially adapted to work in a patented invention and intending that the components be combined abroad in a manner that would infringe if combined domestically. *See* 35 U.S.C. § 271(f).

On June 29, 2012, the court granted summary judgment of infringement in favor of WesternGeco for claim 18 of the '520 patent under 35 U.S.C. § 271(f)(1). In so ruling, the court interpreted § 271(f)(1) as requiring that the "alleged infringer (1) actively induce the combination of the components in question; and (2) that the combination of those components would infringe the patent if such combination occurred within the United States." J.A. 52. Section 271(f)(2), the district court concluded, required a heightened standard: "that the defendant (1) intended the combination of components; (2) knew that the combination he intended was patented; and (3) knew that the combination he intended would be infringing if it occurred in the United States." J.A. 55. The court determined that WesternGeco proved that ION intended that the components be combined and therefore infringed under § 271(f)(1) with respect to claim 18, but concluded that, with respect to claim 18 under § 271(f)(2), there was a genuine issue of material fact as to whether the "Defendants *knew* that the combination was infringing." J.A. 56.

Trial was held in July and August of 2012. On August 16, 2012, the jury rendered its verdict,

finding that ION infringed claims 19 and 23 of the '520 patent, claim 15 of the '967 patent, claim 15 of the '607 patent, and claim 14 of the '038 patent under §§ 271(f)(1) and (f)(2). The jury also found that ION infringed claim 18 of the '520 patent under § 271(f)(2) (infringement under (f)(1) as to claim 18 having already been decided on summary judgment). Finally, the jury found that the infringement was willful (applying the so-called "subjective" prong of *In re Seagate Technology, LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc)). The jury awarded $93,400,000 in lost profits and $12,500,000 in reasonable royalties.

ION filed motions for judgment as a matter of law or for a new trial. ION also filed a motion to dismiss, for the first time alleging that WesternGeco did not have standing to assert the '607 patent, the '967 patent, and the '520 patent because WesternGeco did not own the patents. WesternGeco filed, *inter alia*, a motion for enhanced damages under 35 U.S.C. § 284.

On June 19, 2013, the district court denied ION's JMOLs and motion to dismiss and WesternGeco's motion for enhanced damages, finding that ION's positions were reasonable and not objectively baseless.

ION appealed. WesternGeco conditionally cross-appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

I

We first address ION's contention that WesternGeco does not own the '607 patent, the '967 patent, and the '520 patent, and therefore lacked standing to assert them. The question is whether WesternGeco owned the patents when the suit was filed in 2009. It is uncontroverted that a sole owner of a patent has standing to assert it and that an entity that does not own the patent (or is not the exclusive licensee) does not have standing to sue. *See Rite–Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1551–52 (Fed. Cir. 1995) (en banc).

Although standing is reviewed de novo, we review factual determinations relating to standing for clear error. *See Enovsys LLC v. Nextel Commc'ns, Inc.*, 614 F.3d 1333, 1340–41 (Fed. Cir. 2010). The district court reviewed the parties' arguments with respect to the chain-of-title and concluded that "WesternGeco has presented sufficient evidence to prove its ownership of the patents" and that "WesternGeco was assigned the rights." J.A. 7. We have reviewed the record relating to the chain of title between the original inventors and WesternGeco. We conclude that the district court's findings are not clearly erroneous.

The three patents each list two inventors: Oyvind Hillesund and Simon Bittleston. In 1993, Bittleston started working for a subsidiary of Schlumberger Ltd., and Hillesund started working for a subsidiary of Schlumberger Ltd. the following

year. Schlumberger Ltd. is one of the world's largest oil and gas companies, incorporated in Curacao and with offices throughout the world. Although the precise Schlumberger corporate structure existing in the early 1990s is not clear from the record, and it is not clear precisely for which subsidiaries Bittleston and Hillesund worked at the time of their invention, ION admits that Hillesund and Bittleston worked for so-called "Geco" subsidiaries of Schlumberger Ltd. *See* Appellant's Br. 10 (characterizing Hillesund and Bittleston as having "originally went to work for Geco in" 1994 and 1993, respectively).

Both inventors testified that they transferred their rights to the inventions they developed to their employers pursuant to their employment contracts. Bittleston testified: "[W]hen [Hillesund and I] joined the company [one of the Geco companies], we signed something saying that any inventions we made were going to be owned by the company, not by us, so they're the owners." J.A. 1504. Hillesund's testimony is similar. When asked: "Mr. Hillesund, as an employee of Geco and later WesternGeco, did you assign your rights of the intellectual property to the company?", Hillesund responded: "Yes. Part of the—my contract was that intellectual property—there was also something in the contract that I was to be given reasonable coverage of—in the form of a bonus, all in accordance to the significance of the patent." J.A. 12805.

If, in fact, Geco subsidiaries of Schlumberger, Ltd. acquired those rights in the early 1990s, they were transferred to Schlumberger Technology

Corporation ("STC") pursuant to a 1998 agreement. In 1998, four Schlumberger companies, Schlumberger Holdings Limited, STC, Schlumberger Canada Limited, and Services Petroliers Schlumberger S.A., entered into a cost-sharing agreement. As a part of that agreement, the parties assigned intellectual property rights to each other to consolidate those rights on a geographical basis:

> [O]wnership of the Patent Rights, Proprietary Technical Information and Copyrights which are subject to this Agreement shall be vested in the Participants in their Respective Areas....

J.A. 12828–29. STC's "respective area" was the United States. J.A. 12820. The agreement defined "Patent Rights" to include "any and all patents and patent applications, certificates of invention and the like, throughout the world, and interests therein, based upon inventions relating to seismic oil field services or equipment which are obtained by or for the Geco Prakla companies." J.A. 12824.[1] Thus, there

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[1] "Geco Prakla" was defined to mean:

> SHL; STC and specifically its Geco Prakla engineering, manufacturing and operating divisions and research centers; SCL and specifically its Geco Prakla seismic operating division; SPS; and any other seismic service and/or data processing oil field corporation, firm, partnership or other entity ("entities") which may, directly or indirectly, be wholly or majority owned by Schlumberger Limited

is substantial evidence to conclude that the agreement here assigned the intellectual property in the Geco companies (originally assigned from the inventors) to STC in 1998.

The next event in the chain-of-title occurred in 2000, when Schlumberger and Baker–Hughes formed a joint venture, WesternGeco, to which STC assigned its intellectual property rights "primarily related to the Seismic Business in the U.S."[2] J.A.

> (SL); and successors of such entities so long as each remains a wholly or majority-owned subsidiary of SL or a successor of SL.

J.A. 12820.

[2] The agreement defined "Transferred IP" to refer to, *inter alia*, "Schlumberger Transferred IP," which is in turn defined to mean "Intellectual Property that (i) is owned by Schlumberger or its Affiliates or to which Schlumberger or its Affiliates otherwise have rights, (ii) is used or held for use primarily in connection with or otherwise primarily related to the Schlumberger Seismic Business, and (iii) exists as of the Closing Date, including the Schlumberger Proprietary Rights that are identified by Schedule 4.18(a) to the Schlumberger Disclosure Letter." J.A. 12711; 12713. The contract defined "Intellectual Property" to mean:

> *patents, patent applications (filed, unfiled or being prepared),* records of invention, invention disclosures, trademarks (registered or unregistered), trademark applications (filed, unfiled or being prepared), trade names, copyrights (registered or unregistered), copyright applications (filed, un-filed or being prepared), service marks (registered or unregistered), service mark applications (filed, unfiled or being prepared), database rights (registered or unregistered), all together with the goodwill associated with such marks or

12780. And there is substantial evidence to conclude that the intellectual property at issue in this case is "primarily related to the Seismic Business" because a British application and Patent Cooperation Treaty ("PCT") application, from which the three patents at issue derive, were expressly included in a list of IP used primarily for the Seismic Business.[3] As a result of this series of transfers, it appears that the inventors' patent rights were transferred first to the Geco companies, then in 1998 to STC, and then in 2000 to WesternGeco, the plaintiff in this case.

However, ION argues that there is a defect in this chain of title. It contends that the inventors,

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> names, trade secrets, shop and royalty rights, technology, *inventions,* know-how, processes and confidential and proprietary information, *including any being developed* (including but not limited to designs, manufacturing data, design data, test data, operational data, and formulae), whether or not recorded in tangible form through drawings, software, reports, manuals or other tangible expressions, whether or not subject to statutory registration, whether foreign or domestic, and all rights to any of the foregoing.

J.A. 12706 (emphases added).

[3] The three patents at issue here are all continuations of U.S. Patent No. 6,932,017, which was itself based on the PCT application expressly transferred in the 2000 merger. The '017 patent application was initiated under 35 U.S.C. § 371, which provides for the national filing of PCT applications. The three patents at issue could not have been listed in the 2000 agreement because they had not yet been filed.

while perhaps obligated to transfer rights in the invention to their employers (Geco subsidiaries) under their employment agreements, failed to testify that such a transfer in fact occurred. It is well-established that employment contracts do not necessarily automatically assign patent rights to the employer. *See Abraxis Bioscience, Inc. v. Navinta LLC*, 625 F.3d 1359, 1364 (Fed. Cir. 2010). "[C]ontracts that obligate the owner to grant rights in the future do not vest legal title to the patents in the assignee." *Id.* at 1364–65. In such circumstances, the employee must still formally assign the rights to the patent to the employer in order to convert the employer's contractual right to the technology into a vested ownership interest.

The simple answer is that even if the inventors still owned the rights to the invention after the 2000 merger agreement, the inventors transferred their interests in the pending patent applications to STC in 2001. The 2001 assignment forms executed by each of the two inventors provided that "[STC] is desirous of acquiring or confirming its ownership of the entire right, title and interest in and to [the invention]" and confirmed that the inventors "have sold, assigned, transferred and conveyed, and by this assignment, do sell, assign, transfer and convey, unto Assignee, its successors and assigns, the entire right, title and interest throughout the United States ... in and to my invention...." J.A. 12195–98. These 2001 assignments were filed as to U.S. Patent Application No. 09/787,723 ("App. No. '723") and PCTIB99/01590. As noted above, the three patents for which ION

challenges ownership were all continuations of the patent resulting from App. No. '723. ION admits that STC was assigned the patents in 2001, and argues that STC is the patent owner.

No further transfer instrument from STC to WesternGeco was required to vest these patents in WesternGeco after the rights were transferred to STC in 2001. The transfer from STC to WesternGeco occurred automatically under the previously executed 2000 agreement. It is well-established that when an agreement provides for the transfer of an interest in a patent and the transferring party later receives formal title, the formal title is automatically transferred by operation of the prior agreement to the transferee party. *See Abraxis*, 625 F.3d at 1364 ("If [a] 'contract expressly conveys rights in future inventions, no further act is required once an invention comes into being, and the transfer of title occurs by operation of law.'"); *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1326 (Fed. Cir. 2010) (same).[4]

Here, the 2000 merger agreement was a present assignment of STC's rights to the intellectual property at issue. The merger agreement provided:

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[4] Indeed, 35 U.S.C. §§ 118 and 261 contemplate assignment of a right to receive a patent. Section 261 provides in part: "Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing." Similarly, § 118 provides in part: "A person to whom the inventor has assigned or is under an obligation to assign the invention may make an application for patent."

"STC assigns to [WesternGeco] in accordance with Article 2 all right, title, and interest in and to the Schlumberger Transferred IP primarily related to the Seismic Business in the U.S." J.A. 12780. Intellectual Property was defined to include: "patents, patent applications (filed, unfiled or being prepared)," and "inventions," "including any being developed." J.A. 12706. The 2000 assignment here included the rights to future patents resulting from the existence of a previous invention.

There is thus substantial evidence to conclude that WesternGeco owns the patents at issue and has standing to sue, regardless of whether the inventors transferred their rights to the inventions to the Geco companies by operation of their employment agreements or whether they merely agreed to a future transfer in the early 1990s and then formally transferred their rights to STC in 2001. The district court did not err in ruling that WesternGeco was the owner of the patents-in-suit and had standing to sue.

II

We next turn to ION's challenges to the determination of infringement. As stated earlier, the district court granted summary judgment of infringement on claim 18 of the '520 patent under § 271(f)(1). The jury determined that ION infringed the other asserted claims under § 271(f)(1), and the jury separately determined that ION infringed all of the asserted claims (including claim 18) under § 271(f)(2) as well.

Section 271(f)(1) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, *in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe* the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(1) (emphasis added). Section 271(f)(2) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, *knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that*

> *would infringe* the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2) (emphasis added).

ION contends that three errors by the district court require reversal. First, ION contends that the district court misconstrued (f)(1)'s "actively induce" intent requirement in granting summary judgment for claim 18 of the '520 patent and in instructing the jury as to (f)(1) infringement for the other asserted claims. The parties dispute the meaning of the following language of (f)(1): "actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). The district court held that this requirement was satisfied if the alleged infringer "actively induce[d]" the combination abroad, irrespective of whether the infringer had knowledge that there would be infringement if combined domestically. J.A. 52. ION disagrees with that reading, arguing that the language of (f)(1) requires that ION knew the intended combination would be infringing if done domestically.

We need not reach the question whether the district court applied the correct standard under § 271(f)(1). The verdict was clear that the jury found liability under § 271(f)(2) for all asserted claims. The district court expressly instructed the jury to "determine infringement ... on a claim-by-claim

basis" for both § 271(f)(1) and (f)(2) and instructed them to determine infringement as to claim 18 of the '520 patent under § 271(f)(2). Because there was no contention raised before the district court that the (f)(2) instruction as to the standard of intent was erroneous,[5] and, as discussed below, there were no other errors with respect to the (f)(2) instruction, the correctness of the infringement finding with respect to (f)(2) forms an adequate basis for liability.

ION's second challenge is to the lack of limiting instructions to the jury with respect to (f)(2). ION proposed that the jury be instructed:

> I have previously determined that ION ... infringe[s] Claim 18 of the '520 Patent by supplying DigiFIN and the Lateral Controller from the United States intending the two components be combined into a system that infringes Claim 18 utilizing the streamer separation mode. You must accept my finding on infringement as it relates to Claim 18 of the '520 Patent under § 271(f)(1). *You should not consider this finding in deciding the question*

[5] On appeal, ION argues that the (f)(2) jury instruction was incorrect in light of *Commil USA, LLC v. Cisco Sys., Inc.*, 720 F.3d 1361 (Fed. Cir. 2013), which was decided six days after the district court's JMOL order. This argument is mooted by the Supreme Court's recent decision in *Commil USA, LLC v. Cisco Systems, Inc.*, 135 S. Ct. 1920 (2015).

> *of infringement as to any other claim or when deciding infringement under § 271(f)(2).*

J.A. 10913 (emphasis added). The district court did not err in rejecting this proposed instruction. The district court held that, for both (f)(1) and (f)(2), WesternGeco was required to prove that ION intended that the components be combined abroad (quite apart from other intent requirements). In granting summary judgment on claim 18, the district court resolved this issue in favor of WesternGeco. The jury was entitled to be advised that this issue—applicable to both (f)(1) and (f)(2)—had been resolved against ION. Because ION's proposed instruction would have precluded that, it was overly broad, and the district court did not err in refusing to give the instruction. *See Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 638–39 (Fed. Cir. 2011); *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 862 (Fed. Cir. 1991) ("In order to prevail on the jury instruction issue in this case, [the appellant] must demonstrate both that the jury instructions actually given were fatally flawed and that the requested instruction was proper and could have corrected the flaw.").[6]

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[6] ION's denied motions in limine were equally overbroad. For example, ION requested that WesternGeco be precluded from making "[a]ny mention of or reference to this Court's Orders denying or granting motions for summary judgment." J.A. 10653; *see also* J.A. 10793 (refusing to give the instruction).

Finally, ION complains that WesternGeco during trial made improper references to the (f)(1) summary judgment order when arguing that the jury should find (f)(2) infringement. ION did not object to the references when they were made, and ION fails to demonstrate that they constituted plain error requiring reversal in the absence of an objection. *See Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1379–80 (Fed. Cir. 2008) (plain error reversible only where substantial rights are affected).

III

Although ION does not challenge the reasonable royalty award, ION challenges the award of lost profits resulting from lost contracts for services to be performed abroad. We hold that lost profits cannot be awarded for damages resulting from these lost contracts.

WesternGeco makes the Q–Marine domestically and performs the surveys abroad on behalf of its customers—oil companies looking to extract oil from the sea floor. ION makes the DigiFINs domestically and then ships them overseas to its customers, who, in competition with WesternGeco, perform surveys abroad on behalf of oil companies. WesternGeco identified ten surveys for which it believes that, but for ION's supplying of DigiFINs to ION's customers, WesternGeco would have been awarded the contract. These ten surveys allegedly would have generated over $90,000,000 in profit. According to WesternGeco, ION's customers would not have been able to win the contracts if they

did not have access to the DigiFINs. Thus, according to WesternGeco, but for ION's sales to its customers, WesternGeco would have earned over $90 million in profit from the ten lucrative services contracts performed abroad.

ION argues that WesternGeco cannot receive lost profits resulting from the failure to win these contracts. The service contracts were all to be performed on the high seas, outside the jurisdictional reach of U.S. patent law. There is also no contention that the service contracts were entered into in the United States.

The presumption against extraterritoriality is well-established and undisputed. As the Supreme Court ruled in *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007), "[t]he presumption that United States law governs domestically but does not rule the world applies with particular force in patent law. The traditional understanding that our patent law operates only domestically and does not extend to foreign activities is embedded in the Patent Act itself, which provides that a patent confers exclusive rights in an invention within the United States." *Id.* at 454–55 (citation, alterations, and internal quotation marks omitted). *See also Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) ("Our patent system makes no claim to extraterritorial effect; 'these acts of Congress do not, and were not intended to, operate beyond the limits of the United States.' " (quoting *Brown v. Duchesne*, 60 U.S. 183, 195 (1856))); *Equal Emp't Opportunity Comm'n v. Arabian Am. Oil Co.*, 499 U.S. 244, 248

(1991) ("It is a longstanding principle of American law 'that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.'" (quoting *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949))).

Here, the enactment of § 271(f) expanded the territorial scope of the patent laws to treat the export of components of patented systems abroad (with the requisite intent) just like the export of the finished systems abroad. The genesis of Congressional action lay in the Supreme Court's decision in *Deepsouth*. In *Deepsouth*, the Supreme Court determined that a domestic manufacturer who manufactured components of an infringing product and then exported those components abroad without first combining them was not an infringer under § 271(a). 406 U.S. at 527–29. In response, Congress enacted § 271(f), which overruled *Deepsouth* to impose liability on domestic entities shipping components abroad (with the requisite intent), just as if they had manufactured the infringing product itself in the United States. *See Microsoft*, 550 U.S. at 442–45 (explaining that Congress enacted § 271(f) to hold manufacturers of exported components liable as infringers). There is no indication that in doing so, Congress intended to extend the United States patent law to cover uses abroad of the articles created from the exported components.

It is clear that under § 271(a) the export of a finished product cannot create liability for extraterritorial use of that product. The leading case

on lost profits for foreign conduct is *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348 (Fed. Cir. 2013). There, the patentee, a chip supplier, lost contracts to supply a prospective customer with computer chips in the United States and abroad because the accused infringer became a competitor for such contracts as a result of the U.S. infringing sales. If the accused infringer had been precluded from U.S. infringement, the patentee alleged that the accused infringer could not have competed for the contracts which necessarily involved supplying chips both in the United States and abroad. The patentee argued that it should recover world-wide lost profits.

We rejected that argument: "[Our patent laws] do not thereby provide compensation for a defendant's foreign exploitation of a patented invention, which is not infringement at all." *Power Integrations*, 711 F.3d at 1371. Rather, "we find neither compelling facts nor a reasonable justification for finding that [the patentee] is entitled to 'full compensation' in the form of damages based on loss of sales in foreign markets which it claims were a foreseeable result of infringing conduct in the United States." *Id.* at 1372. "[T]he entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement." *Id.* at 1371–72.

Under *Power Integrations*, WesternGeco cannot recover lost profits resulting from its failure to win foreign service contracts, the failure of which allegedly resulted from ION's supplying infringing products to WesternGeco's competitors. *See also Duchesne*, 60 U.S. at 195–96 ("And the use of [the patented technology] outside of the jurisdiction of the United States is not an infringement of [the patentee's] rights, and [the patentee] has no claim to any compensation for the profit or advantage the party may derive from it."); *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 769 F.3d 1371, 1380 (Fed. Cir. 2014) ("Following Halo's logic, a foreign sale of goods covered by a U.S. patent that harms the business interest of a U.S. patent holder would incur infringement liability under § 271(a). Such an extension of the geographical scope of § 271(a) in effect would confer a worldwide exclusive right to a U.S. patent holder, which is contrary to the statute and case law.").

WesternGeco argues that *Power Integrations* applies to infringement under § 271(a)-(b), not infringement under § 271(f). WesternGeco's argument misunderstands the role of § 271(f) in our patent law. Section 271(f) does not eliminate the presumption against extraterritoriality. Instead, it creates a limited exception. *Microsoft*, 550 U.S. at 442, 455–56. As we have discussed, by its terms, § 271(f) operates to attach liability to domestic entities who export components they know and intend to be combined in a would-be infringing manner abroad. But the liability attaches in the United States. It is the act of exporting the components from the United

States which creates the liability. A construction that would allow recovery of foreign profits would make § 271(f), relating to components, broader than § 271(a), which covers finished products. In fact, § 271(f) was designed to put domestic entities who export components to be assembled into a final product in a similar position to domestic manufacturers who sell the final product domestically or export the final product. Just as the United States seller or exporter of a final product cannot be liable for use abroad, so too the United States exporter of the component parts cannot be liable for use of the infringing article abroad.

Of course, the fact that WesternGeco is not entitled under United States patent law to lost profits from the foreign uses of its patented invention does not mean that it is entitled to no compensation. Patentees are still entitled to a reasonable royalty, and WesternGeco received such a royalty here.[7]

The dissent raises three principal arguments in favor of allowing WesternGeco to recover lost profits resulting from failing to win the contracts to perform the seismic surveys on the high seas.

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[7] The extent to which these royalties may be affected by lost profits suffered abroad is an issue not presented here. *See Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378 (Fed. Cir. 2005), *overruled on other grounds, Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1365 (Fed. Cir. 2009) (en banc); *see also Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1378 n.7 (Fed. Cir. 2015).

First, the dissent identifies Supreme Court cases it believes approved awards of lost profits for foreign sales, citing *Goulds' Manufacturing Co. v. Cowing*, 105 U.S. 253, 26 L.Ed. 987 (1881), *Dowagiac Manufacturing, Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641 (1915), and *Duchesne*, 60 U.S. 183. None of these cases is remotely similar to this one. To be sure, they suggest that profits for foreign sales of the patented items themselves are recoverable when the items in question were manufactured in the United States and sold to foreign buyers by the U.S. manufacturer. *See Goulds' Mfg.*, 105 U.S. at 254; *Dowagiac Mfg.*, 235 U.S. at 642–43; *Duchesne*, 60 U.S. at 196. There is no such claim here. Rather, the claim is for lost profits from the use abroad of the items in question. The dissent's own authority, *Dowagiac Manufacturing*, makes clear that absent sales to foreign buyers by the U.S. manufacturer, there can be no recovery of lost profits for foreign sales:

> Some of the drills, about 261, sold by the defendants, were sold in Canada, no part of the transaction occurring within the United States, and as to them there could be no recovery of either profits or damages. The right conferred by a patentee under our law is confined to the United States and its Territories and infringement of this right cannot be predicated of acts wholly done in a foreign country.

235 U.S. at 650.

Second, the dissent argues that the surveys should be recoverable as "convoyed sales" of the domestically manufactured components of the infringing DigiFINs. But, WesternGeco did not raise this argument before the district court or this court. And, the dissent points to no case extending the convoyed sales doctrine to cover sales of related products or services abroad. *See, e.g., State Indus., Inc. v. Mor–Flo Indus., Inc.*, 883 F.2d 1573, 1575 (Fed. Cir. 1989) (making no mention of foreign sales or uses); *Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) (same). We see no basis for extending § 271(f)(2) to cover lost profits resulting from the use abroad of U.S. manufactured goods or components thereof in light of the "particular force" of the presumption against extraterritoriality in our patent laws. *See Microsoft Corp.*, 550 U.S. at 454–55. Certainly in drafting 271(f)(2) Congress did not provide for liability in convoyed-sales situations.

Third, the dissent expresses concern that our ruling today might effectively prevent WesternGeco from recovering lost profits at all, as the surveys were conducted on the high seas and were outside of the territorial reach of any patent jurisdiction in the world. This may or may not be the case. Indeed, WesternGeco does not contend that it is barred from recovering in the jurisdiction in which the services contracted was negotiated and signed, nor does it contend that it is barred from recovering in the jurisdiction from which the ship performing the

seismic surveys is flagged. In any event, the possible failure of liability provides no basis for ignoring the presumption against extraterritoriality.

IV

Because we reverse the district court's lost profits decision, we turn next to WesternGeco's conditional cross-appeal.

WesternGeco first challenges the district court's grant of ION's motion to exclude WesternGeco's expert from testifying as to a reasonable royalty. WesternGeco's damages expert, Raymond Sims, submitted an expert report in which he determined that the reasonable royalty rate for ION's alleged infringement was 10% of the revenue of ION's customers. In support of this, he explained that ION's customers had received $3.3 billion in revenue for performing surveys with the DigiFINs, and that they would not have been able to receive that revenue without the DigiFINs.

The district court excluded Sims from testifying as to a reasonable royalty. The district court reasoned "that ION, in a hypothetical negotiation with [WesternGeco], would [not] have ... agreed to a huge, profit-eliminating (and even revenue eliminating) royalty obligation for itself. As a matter of law, no such risk can be taken in a hypothetical negotiation in which infringement is deemed known. With knowledge of validity and infringement, such a financially catastrophic agreement would have been totally unreasonable."

J.A. 62.

District courts are tasked with the gatekeeping function of determining whether to allow an expert to testify. *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592 (1993). "Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue." *Id.* (footnote omitted). We review the district court's decision to exclude an expert for an abuse of discretion. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

WesternGeco argues that the court improperly adopted a rule that a profit-eliminating royalty was per se unreasonable. It is true that there is no legal rule that caps the reasonable royalty by the amount of the infringer's profit.[8]

We conclude that the district court adopted no such absolute rule and did not abuse its discretion in excluding the expert. The district court expressly based its ruling on two facts—that the royalty was profit eliminating and that it was revenue

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[8] *See, e.g., Aqua Shield v. Inter Pool Cover Team*, 774 F.3d 766, 770–71 (Fed. Cir. 2014); *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1374 (Fed. Cir. 2008), *modified on other grounds*, 557 F.3d 1377 (Fed. Cir. 2009); *Monsanto Co. v. Ralph*, 382 F.3d 1374, 1384 (Fed. Cir. 2004); *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1580 (Fed.Cir.1989).

eliminating. Indeed, the proposed royalty was so high that it would have exceeded ION's revenue by four times. WesternGeco cites no case, and we are aware of none, in which we have held that a reasonable royalty can exceed, by a factor of four, the market price for the patented invention. As such, we see no error in the district court exercising its discretion to exclude the expert from testifying as to a reasonable royalty.[9]

V

Finally, WesternGeco challenges the district court's refusal to award enhanced damages for willful infringement.

In *In re Seagate,* we announced a two-prong test for willfulness:

> [T]o establish willful infringement, a patentee must show by clear and

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[9] Although not expressly articulated by the district court, it is also worth noting that there were other reasons to exclude the expert's testimony. For example, after determining that the patented technology was worth 10% of total revenue, the expert used the revenue generated by ION's customers resulting from performing the oceanic surveys as the base for that 10% number, rather than the revenue generated by ION resulting from selling the infringing products. This increased, by more than tenfold, the estimated reasonable royalty. Again, we are aware of no case in which the plaintiff has used the defendant's customer's revenue as the revenue base for calculating a reasonable royalty, and WesternGeco does not identify one.

> convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.... The state of mind of the accused infringer is not relevant to this objective inquiry. If this threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer.

497 F.3d at 1371. In *Bard Peripheral Vascular, Inc. v. W.L. Gore & Associates, Inc.*, we explained that the objective inquiry is a legal question, to be answered by the judge and reviewed de novo. 682 F.3d 1003, 1007 (Fed. Cir. 2012).

The jury determined that WesternGeco demonstrated, "by clear and convincing evidence[,] that ION actually knew, or it was so obvious that ION should have known, that its actions constituted infringement of a valid patent claim [.]" J.A. 77. WesternGeco subsequently sought enhanced damages in light of the jury's finding. The district court denied WesternGeco's motion. The court noted that the jury already determined that the subjective prong was satisfied, but that it was the responsibility of the court to determine if the objective prong had been satisfied. After carefully reviewing ION's

noninfringement and invalidity defenses, the district court concluded that they were "not unreasonable by clear and convincing evidence," "not objectively baseless," and "reasonable." J.A. 26–28.

WesternGeco has not established that the district court erred in concluding that ION's defenses were reasonable and indeed gives relatively little attention to this issue. Instead, WesternGeco argues that ION was not successful with any of its defenses and that ION did not raise any of those defenses on appeal. But unreasonableness, not a lack of success, determines whether enhanced damages are awarded. *See Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1319 (Fed. Cir. 2010) ("Th[e] 'objective' prong of *Seagate* tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement.").

WesternGeco also argues that ION's customers brought the patents to ION's attention and voiced their concerns regarding possible infringement, and that ION was so concerned about the possibility of infringement that it hesitated to enter into indemnity agreements with its customers. These arguments bear on the subjective inquiry, not the objective inquiry—whether WesternGeco had objectively reasonable defenses. Whether our review is de novo or deferential, we see no error in the district court's determination.

CONCLUSION

We affirm in all respects, except that we reverse the

district court's refusal to grant JMOL eliminating the lost profits component of the jury award.

AFFIRMED–IN–PART, REVERSED–IN–PART, AND REMANDED

COSTS

Costs to neither party.

WALLACH, *Circuit Judge*, dissenting-in-part.

I agree with the majority's holdings with respect to standing, infringement, and willfulness. However, in an effort to respect the presumption against the extraterritorial application of United States law, the majority erroneously declines to consider WesternGeco L.L.C.'s ("WesternGeco") lost foreign sales when determining damages for infringement under 35 U.S.C. § 271(f) (2012). Because, under this court's precedents and those of the United States Supreme Court, the patent statute requires consideration of such sales as part of the damages calculation, I respectfully dissent.

It is beyond question that patent rights granted by the United States are geographically limited. As the Supreme Court long ago explained, "[t]he power ... granted [by the Constitution to promote the progress of ... useful arts] is domestic in its character, and necessarily confined within the limits of the United States." *Brown v. Duchesne*, 60 U.S. (19 How.) 183 (1856); *see also Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) ("Our patent system makes no claim to extraterritorial effect; 'these acts of Congress do not, and were not intended to, operate beyond the limits of the United States'; and we correspondingly reject the claims of others to such control over our markets." (quoting *Duchesne*, 60 U.S. at 189)), *superseded in part by statute*, Patent Law

Amendments Act of 1984, Pub. L. No. 98–622, 98 Stat. 3383.

Consistent with this approach, Congress has conferred on patentees "the right to exclude others from making, using, offering for sale, or selling the invention *throughout the United States.*" 35 U.S.C. § 154(a)(1) (emphasis added). Although "[t]he presumption that United States law governs domestically but does not rule the world" is not unique to the patent context, it "applies with particular force in patent law." *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454–55 (2007).

Nevertheless, the limited geographic reach of United States patent law does not mean activities occurring outside the United States are categorically disregarded when determining issues of patent infringement. For example, 35 U.S.C. § 271(g) imposes liability based upon an underlying foreign use of a patented process, if the product made by that process is imported into the United States. Similarly, and relevant to the present matter, by enacting § 271(f) Congress imposed liability on those supplying from the United States components of a patented invention "in such manner as to actively induce the combination of such components *outside of the United States* in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1) (emphasis added).

The Supreme Court has described § 271(f) as "an exception to the general rule that our patent law

does not apply extraterritorially." *Microsoft*, 550 U.S. at 442; *see also Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111, 2118 (2014) (Section 271(f)(1) "illustrates [that] when Congress wishes to impose liability for inducing activity that does not itself constitute direct infringement, it knows precisely how to do so."); *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1351 (Fed. Cir. 2014) ("Under 35 U.S.C. § 271(f)(1), a party may infringe a patent based on its participation in activity that occurs both inside *and outside the United States*.") (emphasis added); *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1371 (Fed. Cir. 2013) ("[I]ndirect infringement, *which can encompass conduct occurring elsewhere*, requires underlying direct infringement in the United States.") (emphasis added) (citations omitted).

The relevance of foreign activities is not limited to the underlying issue of liability for *infringement*, but also relates to the associated issue of *damages*. It is on the issue of damages that the majority errs.

In general, a patentee is entitled to full compensatory damages where infringement is found. *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654–55 (1983) (By enacting § 284, "Congress sought to ensure that the patent owner would in fact receive full compensation for 'any damages' he suffered as a result of the infringement.") (citation omitted); *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 881 (Fed. Cir. 1995)

("The primary purpose of compensatory damages is to return the patent owner to the financial position he would have occupied but for the infringement."); H.R. Rep. No. 1587, 79th Cong., 2d Sess. (1946) ("The object of the bill is to make the basis of recovery in patent infringement suits general damages, that is, *any damages the complainant can prove....*") (emphasis added). This general approach is rooted in the patent statute, which provides: "Upon finding for the claimant the court shall award the claimant damages *adequate to compensate for the infringement,* but in no event less than a reasonable royalty." 35 U.S.C. § 284 (emphasis added). Section 284 is a particular variation of the more general principle that, "'when a wrong has been done, and the law gives a remedy,'" "'[t]he injured party is to be placed, as near as may be, in the situation he would have occupied if the wrong had not been committed.'" *Albemarle Paper Co. v. Moody,* 422 U.S. 405, 418–19 (1975) (quoting *Wicker v. Hoppock,* 73 U.S. (6 Wall.) 94 (1867)).

These general principles of full compensation, of course, do not directly address the question of whether foreign activities may be considered when calculating such compensation. The Supreme Court, however, has answered this question in the affirmative, looking to non-infringing foreign sales to calculate lost profits where the patented product is manufactured in the United States. For example, in *Goulds' Manufacturing Co. v. Cowing,* the defendant manufactured 298 pumps "specially designed for drawing off the gas from oil-wells," for which "there was no market ... except in the oil-producing regions

of Pennsylvania and Canada." 105 U.S. 253 (1881) (internal quotation marks omitted). Without excluding the pumps sold in Canada, the Supreme Court found "a reasonable allowance for profits will be fifteen dollars on each pump, or $4,470 [i.e., 298 multiplied by $15 equals $4,470] in all." *Id.* at 258. The Court thus relied in part on foreign sales to calculate lost profits, explaining the appellant "could easily, and with reasonable promptness, [have filled] every order that was made." *Id.* at 256.

In *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.*, the Court reviewed "an accounting of profits and an assessment of damages resulting from the infringement of a patent granted ... for certain new and useful improvements in grain drills, commonly known as shoe drills." 235 U.S. 641, 642–43 (1915) (internal quotation marks omitted). The defendants included wholesale dealers who purchased from manufacturers (who also infringed the patent). *Id.* at 643. Some of the drills were sold in Canada by the defendants. *Id.* at 650. The Court held the plaintiff was unable to recover "either profits or damages" as to these sales, specifically distinguishing *Goulds'* on the basis that "while [the infringing drills] were made in the United States, they were not made by the defendants." *Id.* By implication, had the defendants manufactured within the United States the infringing articles that were the subject of the foreign sales, those sales could have been used in the calculation of profits and therefore damages.

Consistent with Supreme Court precedent, this court has previously considered lost foreign sales to inform patent damages calculations. In *Railroad Dynamics, Inc. v. A. Stucki Co.*, the district court awarded $2,182,986 in damages based upon 52,183.5 infringing carsets multiplied by a royalty of $35 per carset, plus 6% compound interest. 727 F.2d 1506, 1510 n.1 (Fed. Cir. 1984). In upholding the award, this court noted:

> The award includes royalties for 1,671 carsets sold to foreign customers.... When it made the 1,671 carsets in this country, it infringed.... *Whether those carsets were sold in the U.S. or elsewhere is therefore irrelevant,* and no error occurred in including those carsets among the infringing products on which royalty was due.

Id. at 1519 (emphasis added).

The use of non-infringing foreign sales, following infringing domestic manufacture, as part of the base on which royalties or lost profits are calculated is only one example of reliance on non-infringing activity to arrive at an appropriate damages figure. Where method patents are involved, non-infringing *domestic* sales of products resulting from domestic infringement of the patent have been held relevant to the damages calculation. In *State Industries, Inc. v. Mor–Flo Industries, Inc.*, for example, the plaintiff held a patent on "a method of

insulating the tank of a water heater by using polyurethane foam." 883 F.2d 1573, 1575 (Fed. Cir. 1989). "The district court awarded [the plaintiff] its incremental profit on [the non-infringing] foam-insulated gas water heaters reflecting the percentage of sales revenue [the plaintiff] lost because of [the defendant's] infringement that would have been its profit," and this court affirmed. *Id.* at 1579–80; *see also Soverain Software LLC v. J.C. Penney Corp.*, 899 F. Supp. 2d 574, 583 (E.D. Tex. 2012) (upholding a damages calculation that relied on "the value of [non-infringing] products sold via the infringing websites as the royalty base," considering in particular "the profit earned on these [non-infringing] products"), *rev'd on other grounds,* 778 F.3d 1311 (Fed. Cir. 2015). Similarly, where a patented device is used to manufacture unpatented products that are later sold, the non-infringing sales can be used to calculate lost profits or reasonable royalties. *See Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) ("In awarding both lost profits and a reasonable royalty, the trial court used the sale of [non-infringing] fused silica [produced using a patented kiln] as the baseline for measuring damages.").

In this case, the foreign sales of unpatented seismic surveys were made not by defendant-appellant ION Geophysical Corporation ("ION"), but by its customers. Maj. Op. at 1343–44, 1349. WesternGeco's lost profits might therefore be distinguished from those at issue in *Goulds', Dowagiac*, and *Railroad Dynamics* on two separate bases: first, the foreign sales were not of a patented

product but of an unpatented service in which a patent-practicing device was used; and second, the foreign sales in the present matter were not made by the defendant.[1]

With respect to the first difference, this court has previously allowed recovery of lost profits based on the recognition that "the economic value of a patent may be greater than the value of the sales of the patented part alone." *King Instruments Corp. v. Perego*, 65 F.3d 941, 950 n.4 (Fed. Cir. 1995). For example, under the doctrine of "convoyed sales," a patentee may recover lost profits based on lost sales of *unpatented* products if they are "sufficiently related to the patented product." *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1375 (Fed. Cir. 2015). Similarly, "when claims are drawn to an individual component of a multi-component product" a patentee may recover "damages based on the entire market value of the accused product" so long as "the patented feature creates the basis for customer demand or

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[1] The majority overreads *Dowagiac*. Maj. Op. at 1351–52. *Dowagiac* declined to impose liability for downstream foreign sales because the defendant was the downstream seller rather than the U.S. manufacturer and its "infringement consisted only in selling the drills after they passed out of the makers' hands." 235 U.S. at 650. That is, the defendant—who was comparable not to ION but to ION's customers—*did not infringe* as to the products sold to foreign buyers. In the present action, WesternGeco is not bringing suit against the downstream sellers, and the issue is not infringement, but damages.

substantially creates the value of the component parts." *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014) (internal quotation marks and citation omitted); *see also Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.*, 225 U.S. 604, 615 (1912) (Upon a sufficient showing, a patentee may recover "the profits and damages ... on the whole machine" if "the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.") (internal quotation marks and citation omitted).

Although discussions of convoyed sales and the entire market value rule are generally addressed to products, there is no statutory or doctrinal reason to exclude functionally related services, as this court has acknowledged. *See State Contracting & Eng'g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1074 (Fed. Cir. 2003) (quoting with approval a jury instruction that "if ... an entire construction job is functionally a part of the patented inventions used on the job, then ... lost profits" may be awarded "for that entire construction job"). Moreover, the sale of the patented and unpatented products or services need not occur simultaneously. *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1333 (Fed. Cir. 2009) (Whether patented and unpatented products are sold together or in separate transactions "is a distinction without a difference."); *see also Carborundum*, 72 F.3d at 881–82 (affirming the district court's holding that the patentee was "clearly entitled to lost profits on all [unpatented] spare parts sales," and finding, absent an injunction, it would have been entitled to lost profits on "future

lost sales of repair parts"). Here, where it appears WesternGeco "could [have] easily, and with reasonable promptness, fill[ed] every order that was made" for marine surveys, *Goulds'*, 105 U.S. at 256, where the patent-practicing devices "were made in the United States" and were made "by the defendants," *Dowagiac*, 235 U.S. at 650, and where "the patented feature creates the basis for customer demand" of the marine surveys, *VirnetX*, 767 F.3d at 1326, recovery should not be precluded.

With respect to the second difference—that ION did not itself make the downstream sales—there is no reason to allow ION to escape liability for lost profits simply based upon the business model it chose to employ. Under § 284, damages are based not on the infringer's profits but on harm suffered by the patentee. *See Robert Bosch, LLC v. Pylon Mfg. Corp.*, 719 F.3d 1305, 1315–16 (Fed. Cir. 2013). In this case, damages to WesternGeco are the same whether ION competes directly or indirectly. Moreover, had ION chosen to compete against WesternGeco directly by manufacturing components in the United States, assembling them abroad, and then underbidding WesternGeco to win and perform seismic survey contracts, there would be no sales of patent-practicing devices (or components thereof) on which to base a reasonable royalty. This case would then resemble *Minco* in that "[b]oth [the defendant] and [the patentee] used the invention to compete in [the same] market." *Minco*, 95 F.3d at 1118. That is, *Minco* upheld a calculation of lost profits based on a downstream, non-infringing sale of something other

than the patented product. The court should do so here.[2]

This court's en banc decision in *Cardiac Pacemakers,* cited by ION in support of its argument that extraterritorial sales cannot be considered, is not contrary. *See Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1362 (Fed. Cir. 2009) (en banc). In that case, this court "[held] that Section

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[2] The majority

> see[s] no basis for extending § 271(f)(2) to cover lost profits *resulting from the use abroad* of U.S. manufactured goods or components thereof in light of the 'particular force' of the presumption against extraterritoriality in our patent laws. Certainly in drafting 271(f)(2), Congress did not provide for *liability* in convoyed-sales situations.

Maj. Op. at 1352 (emphases added) (citation omitted). In so stating, the majority elides three important issues. First, by categorizing the damages as "resulting from ... use abroad," it assumes without analysis that there is an insufficient connection between ION's proven infringement in the United States and damages (see discussion of *Power Integrations, infra*). Second, it fails to consider that the Supreme Court in *Goulds'* did not rely on an explicit authorization of Congress to award damages based upon activities occurring overseas. Third, by using the term "liability," the majority's statement ignores the critical distinction between *whether* a defendant is liable and *the amount for which* a defendant is liable. In any event, Congress stated whoever violates § 271(f) "shall be liable as an infringer." 35 U.S.C. § 271(f)(1) & (2). Under this court's precedents, the extent of liability for infringement, in appropriate cases, is determined by considering the sale of non-infringing products or services. *See generally King Instruments,* 65 F.3d at 947 ("Section 284 imposes no limitation on the types of harm resulting from infringement that the statute will redress.").

271(f) does not cover method claims." *Id.* at 1359. The export of non-infringing implantable cardioverter defibrillators that were then used abroad to practice a patented method could not give rise to liability under § 271(f) because "a component of a method or process is a step in that method or process," *id.* at 1362, but "one cannot supply the step of a method," *id.* at 1364. In simple terms, *Cardiac Pacemakers* held that because method claims are intangible, they cannot be exported ("supplie[d]") within the meaning of § 271(f). The point of law with respect to *infringement* under § 271(f) in *Cardiac Pacemakers,* however, is inapposite to the issue of *damages* the court now decides. Unlike the defendant in *Cardiac Pacemakers,* who shipped non-infringing implantable cardioverter defibrillators, there is no question that ION shipped components of a patented invention for combination abroad and that infringement liability under § 271(f) is proper. *See* Maj. Op. at 1347–48.

Most significantly, this court's decision in *Power Integrations* does not support the majority's view of damages. It is true that case stated damages for infringement under § 271(a) cannot be based on foreign sales simply "because those foreign sales were the direct, foreseeable result of ... domestic infringement." *See Power Integrations,* 711 F.3d at 1371. Read in isolation, this statement is inconsistent with *Goulds', Dowagiac,* and *Railroad Dynamics.*

However, despite its use of the word "direct," the court in *Power Integrations* was clearly

concerned with the sufficiency of the connection between the foreign activity and the domestic infringement. *Power Integrations* explained the plaintiffs had cited no case law supporting the use of "sales consummated in foreign markets, *regardless of any connection* to infringing activity in the United States," when calculating damages. *Id.* at 1371 (emphasis added). It noted the "estimate [of the plaintiff's expert witness] of $30 million in damages was *not rooted in* [*the defendant's*] *activity in the United States.*" *Id.* at 1372 (emphasis added) (internal quotation marks and citation omitted). Similarly, the district court decision expressed concern that the "estimate [of the plaintiff's expert witness] of $30 million in damages was *not* related to parts that were manufactured, used, or sold in the United States by [the defendant]." *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 589 F. Supp. 2d 505, 511 (D. Del. 2008).

Although the record in *Power Integrations* does not clearly describe the nature of the infringing conduct (e.g., sale, manufacture, or sample testing as part of the design process) in relation to the foreign sales activities, *see, e.g.*, 711 F.3d at 1370–71, what is clear is that both the district court and this court found the connection insufficient. Such an approach merely applies the sensible requirement that there be an appropriate connection between the infringing activity and the resulting lost sales. *See Rite–Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1546 & n.5 (Fed. Cir. 1995) (en banc) (explaining that damages for "remote consequences" of patent infringement "are not compensable," and noting disagreement with the

dissent on "where those lines are to be drawn"); *cf. F. Hoffmann-La Roche Ltd. v. Empagran S.A.*, 542 U.S. 155, 166 (2004) (indicating it is not "reasonable to apply [American antitrust] laws to foreign conduct insofar as that conduct causes *independent* foreign harm and that foreign harm *alone* gives rise to the plaintiff's claim") (emphasis modified). In contrast to the tenuous connection between infringement and harm in *Power Integrations*, *see* 711 F.3d at 1371–72, the majority does not question WesternGeco's assertion that "but for ION's sales to its customers, WesternGeco would have earned over $90 million dollars in profit from the ten lucrative services contracts performed abroad." Maj. Op. at 1349.

In any event, *Power Integrations* is distinguishable because the patentee in that case could presumably have protected itself from the foreign manufacture, sale, and use by obtaining patents abroad. *See Deepsouth Packing*, 406 U.S. at 531 ("[T]he wording of 35 U.S.C. §§ 154 and 271 reveals a congressional intent to have [the patentee] seek [protection] abroad through patents secured in countries where his goods are being used."); *see also Microsoft*, 550 U.S. at 456 ("If AT&T desires to prevent copying in foreign countries, its remedy today lies in obtaining and enforcing foreign patents."). Such reasoning loses much of its force where the extraterritorial activity takes place or could take place entirely on the high seas. *See* Maj. Op. at 1349 ("The service contracts were all to be performed on the high seas, outside the jurisdictional reach of U.S. patent law."); *see also* J.A. 10151 ("international waters"); *id.* at 1182 ("high seas"). *See*

generally United States v. Louisiana (The Louisiana Boundary Case), 394 U.S. 11, 23 (1969) ("Outside the territorial sea are the high seas, which are international waters not subject to the dominion of any single nation."); *WesternGeco L.L.C. v. Ion Geophysical Corp.*, 776 F. Supp. 2d 342, 370 (S.D. Tex. 2011) ("[A]ctivities in the [Exclusive Economic Zone] do not occur within the territory of the United States for purposes of U.S. patent law.").

For similar reasons, concerns that extraterritorial application of U.S. patent law could result in double recovery (e.g., by parallel suits brought under the patent laws of more than one country based on the same infringing act) or possibly interfere with foreign sovereignty are of minimal relevance here. Where components of a patented invention are supplied from one country and used exclusively on the high seas, it may be that no country's patent laws reach the conduct occurring in international waters absent a provision such as § 271(f). *See, e.g., Duchesne*, 60 U.S. (19 How.) at 196 ("[T]he high seas [are] out of the jurisdiction of the United States."); *Ocean Sci. & Eng'g, Inc. v. United States*, 595 F.2d 572, 574 (Ct. Cl. 1979) (It is uncertain whether Congress intended the patent laws to apply "to processes carried out on U.S. flag ships and planes at sea."). *See generally Equal Emp't Opportunity Comm'n v. Arabian Am. Oil Co.*, 499 U.S. 244, 265 (1991) (Marshall, J., dissenting) ("[T]he law of the flag state ordinarily governs the *internal* affairs of a ship.") (emphasis added) (internal quotation marks and citation omitted), *superseded by statute on other grounds*, Civil Rights Act of 1991,

Pub. L. No. 102–166, § 109, 105 Stat. 1071, 1077, *as recognized in Arbaugh v. Y & H Corp.*, 546 U.S. 500, 513 n.8 (2006); *Gardiner v. Howe*, 9 F. Cas. 1157, 1158 (C.C.D. Mass. 1865) (No. 5219) ("[Patent] jurisdiction extends to the *decks* of American vessels on the high seas....") (emphasis added); Restatement (Third) of Foreign Relations Law § 502(2) (1987) ("The flag state may exercise jurisdiction to prescribe, to adjudicate, and to enforce, with respect to the ship or any conduct that takes place *on* the ship.") (emphasis added).

The greater concern, therefore, is not the possibility of recovering too much, but the possibility that patent owners will be unable to obtain full compensation, as may well be the import of the majority's holding today. Under the majority's view of damages, plaintiffs such as WesternGeco who are the victims of proven infringement and who have sustained damages caused by the defendant's activity in the United States may not be able to fully recover even if they obtain patent rights abroad.[3] No

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[3] Even if every country applies the law of the flag to prohibit vessel-based activities in international waters that are claimed in a patent issued by that country, it may be difficult for United States patentees to predict, at the time of patenting, either the flag that future vessels are likely to fly or the countries in which future contracts are likely to be "negotiated and signed." Maj. Op. at 1352. This difficulty in prediction distinguishes patents related to activities on the high seas from those obtained in the more common situation where businesses can attempt to predict the need for patenting in a given country based upon factors such as population size or historical market demand. *See Deepsouth Packing*, 406 U.S. at 531 ("[T]he

legislative history shows Congress intended to leave such patentees with an incomplete remedy.

The majority points out that § 271(f) is not broader than § 271(a),[4] that "liability attaches in the United States," and that "[i]t is the act of exporting the component from the United States which creates the liability." Maj. Op. at 1351; *see also* 35 U.S.C. § 271(b), (f)(1), (f)(2) & (g) (indicating who "shall be liable as an infringer"). The question here, however, is not whether "the export of a finished product can [] create liability for extraterritorial use of that product," Maj. Op. at 1350, but instead, what is the proper measure of damages *given* a finding of liability. Infringement has been consistently addressed at the various stages of the proceeding, and the majority acknowledges the role of foreign activities in the infringement determination under the statute. *Id.* at 1347–48. The jury found ION infringed under § 271(f)(1) and (2), and that it did so willfully. The district court denied ION's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non–

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wording of 35 U.S.C. [§ 271] reveals a congressional intent to have [the patentee] seek [protection] abroad through patents secured in countries *where his goods are being used*.") (emphasis added).

[4] Of course, § 271(f) is broader than § 271(a) in that it reaches the supply of "all *or a substantial portion of* the components of a patented invention." 35 U.S.C. § 271(f)(1) (emphasis added); *see also Microsoft*, 550 U.S. at 458 n.18 (explaining how § 271(f), "in one respect, reach[es] past the facts of *Deepsouth* ").

Infringement, and this court now affirms "the infringement finding with respect to (f)(2) [as] an adequate basis for liability." *Id.* at 1348. The question of whether ION is liable for infringement has been answered in the affirmative.

The majority states "§ 271(f) was designed to put domestic manufacturers who export components to be assembled into a final product in a similar position to domestic manufacturers who sell the final product domestically." *Id.* at 1351; *see also* S.Rep. No. 98–663, 98th Cong., 2d Sess., at 3 (1984) ("The bill simply amends the patent law so that when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is 'made' or 'sold' in the United States."). It asserts "[j]ust as the United States seller or exporter of a final product cannot be liable for use abroad, so too the United States exporter of the component parts cannot be liable for use abroad." Maj. Op. at 1351.

However, the cases from which the majority apparently draws this conclusion do not hold that foreign use can never be considered when calculating damages resulting from domestic infringement. In *Microsoft*, 550 U.S. 437, *see* Maj. Op. at 1349–50, the Court found no infringement under § 271(f); it did not address the issue of damages. Similarly, in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 769 F.3d 1371, 1380 (Fed. Cir. 2014), *see* Maj. Op. at 1351, this court found the defendant's "activities in the United States were insufficient to constitute a sale within the United States to support direct infringement,"

and did not reach the issue of damages with respect to those non-sales. Finally, the Supreme Court in *Duchesne*, 60 U.S. (19 How.) at 193–94, 198, *see* Maj. Op. at 1351, found no infringement based on the extraterritorial use of an improved gaff on a foreign sailing vessel that was temporarily present in Boston harbor.

Duchesne actually undermines the majority's assertion that damages for domestic manufacture cannot take into account value from use on the high seas. The *Duchesne* Court specifically stated that if the patented invention "had been manufactured on [the vessel's] deck while she was lying in the port of Boston, or if the captain had sold it there, he would undoubtedly have trespassed upon the rights of the plaintiff, *and would have been justly answerable for the profit and advantage he thereby obtained.*" *Duchesne*, 60 U.S. (19 How.) at 196 (emphasis added). Significantly, the Court noted "[t]he chief and almost only advantage which the defendant derived from the use of this improvement was on the high seas." *Id.* The Court thus concluded that where domestic manufacture leads to "profit and advantage" on the high seas, the defendant is answerable for that profit. *Id.*

Unsurprisingly, this court has indicated damages under § 271(f) may be based on lost foreign sales. In *Union Carbide Chemicals & Plastics Technology Corp. v. Shell Oil Co.*, this court held the district court "was in error" when it "prohibited Union Carbide from submitting evidence of Shell's foreign sales for the purpose of recovering additional

damages under 35 U.S.C. § 271(f)(2)." 425 F.3d 1366, 1378 (Fed. Cir. 2005), *overruled on other grounds by Cardiac Pacemakers,* 576 F.3d 1348. Although this court sitting en banc overruled *Union Carbide,* it did so on the basis that the export of a catalyst for use abroad in a patented method did not infringe under § 271(f) because the catalyst was not a "component" as required by the statute, and because "[§] 271(f) does not apply to method patents." *Cardiac Pacemakers,* 576 F.3d at 1363 n.4, 1365. It left undisturbed *Cardiac Pacemakers'* holding that evidence of foreign sales is relevant to the damages determination where infringement is found under § 271(f). *See id.* at 1365 ("We therefore overrule [*Union Carbide*] *to the extent that it conflicts with our holding today....*") (emphasis added).

In *Promega,* decided after *Cardiac Pacemakers,* this court confirmed that worldwide sales are relevant to the damages determination under § 271(f), i.e., that *Union Carbide's* holding with respect to the relevance of foreign sales remains good law. 773 F.3d at 1350–51. This court noted the "jury awarded lost profits ... based on *worldwide* sales ... under 35 U.S.C. § 271(f)(1)." *Id.; see also W.R. Grace & Co. v. Intercat, Inc.,* 60 F. Supp. 2d 316, 321 (D. Del. 1999) ("[P]laintiff is entitled to damages [under § 271(f)] based on Intercat's international sales."). Although this court vacated the damages award because "the challenged claims of four of the five asserted patents on which the jury based its damages verdict are invalid," it did not preclude the district court on remand from again considering worldwide sales as part of a renewed

damages calculation. *Promega Corp.*, 773 F.3d at 1358. To the contrary, *Promega* acknowledged the presumption "against the extraterritorial application" of the patent laws, but found that "Congress' chosen language [in § 271(f)] assigns liability to [the defendant's] conduct within the United States, *based on its extraterritorial effect.*" *Id.* at 1353 n.10 (emphasis added). The majority does not attempt to distinguish *Cardiac Pacemakers* or *Promega*.[5]

It is true some Federal Circuit decisions have stated lost profits are unavailable where the patentee does not sell its product in the United States. *See, e.g., Lindemann Maschinenfabrik GmbH v. Am. Hoist & Derrick Co.*, 895 F.2d 1403, 1406 n.2 (Fed. Cir. 1990) ("Because Lindemann did not compete in the sale of its invention in the United States, it did not, as it could not, seek damages on the basis of lost profits."); *Trell v. Marlee Elecs. Corp.*, 912 F.2d 1443, 1445 (Fed. Cir. 1990) ("Because Trell did not sell its invention in the United States, he could not seek damages on the basis of lost profits."). In these cases, however, the defendants' conduct appears to have taken place in the United States and no exports were at issue. They therefore

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[5] The majority distinguishes *Union Carbide* on the basis that it addressed "[t]he extent to which ... royalties may be affected by lost profits suffered abroad," while the present matter does not. Maj. Op. at 1351 n.7. The majority offers no explanation as to why lost foreign sales should be relevant when calculating damages based on a reasonable royalty, but not when calculating damages based on lost profits.

stand only for the proposition that there can be no lost profits where the patentee would not have made sales in any event. *See King Instruments*, 65 F.3d at 951 n.5 ("In *Trell* and *Lindemann* ... the record does not show that the patentee sold *any* product in the United States. The patentee had no possible basis for a lost profits claim. These cases, like others, reflect the general rule that lost profits are recoverable only if demonstrated by adequate evidence in the record."). In this case, the district court found "WesternGeco presented sufficient evidence for the jury reasonably to find that it had the capability to exploit the demand," i.e., that but for the infringement, WesternGeco would have made additional sales. J.A. 34.

For these reasons, the majority's near-absolute bar to the consideration of a patentee's foreign lost profits is contrary to the precedent both of this court and of the Supreme Court. I therefore respectfully dissent in part.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

WESTERNGECO L.L.C., Plaintiff,
v.
ION GEOPHYSICAL CORPORATION, et al.,
Defendants.

Case No. 4:09–cv–1827. | June 19, 2013.

MEMORANDUM AND ORDER

KEITH P. ELLISON, District Judge.

Pending before the Court are the following motions:

1. ION's Partial Motion to Dismiss for Lack of Subject Matter Jurisdiction (Doc. No. 565);

2. ION's Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103 (Doc. No. 550);

3. ION's Request for Findings and Conclusions on Enablement and, Alternatively, Motion for New Trial (Doc. No. 552);

4. ION's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non–Infringement (Doc. No. 556);

5. ION's Motion for New Trial on Infringement Under 35 U.S.C. § 271(f)(2) (Doc. No. 557);

6. ION's Motion for JMOL and New Trial Due to

Incorrect Claim Construction (Doc. No. 561);

7. ION's Motion for Entry of Findings and Conclusions of No Willful Infringement, Renewed Motion for Judgment as a Matter of Law of No Willful Infringement, and Alternative Motion for New Trial (Doc. No. 559);

8. WesternGeco's Motion for Willfulness and Enhanced Damages (Doc. No. 560);

9. WesternGeco's Motion to Find this Case Exceptional Under Section 285 and for Attorneys' Fees (Doc. No. 554);

10. ION's Motion for JMOL, Motion for New Trial on Damages alternatively Motion for Remittitur (Doc. No. 562);

11. WesternGeco's Motion for Prejudgment Interest and Post–Discovery Damages (Doc. No. 553);

12. WesternGeco's Motion for Costs (Doc. No. 555);

13. ION's Motion to Compel Production of Documents From WesternGeco (Doc. No. 609); and

14. WesternGeco's Motion for a Permanent Injunction or, in the Alternative, an Ongoing Royalty (Doc. No. 558).

Upon considering the Motions, all responses thereto, the applicable law, and oral arguments, the Court finds that:

1. ION's Partial Motion to Dismiss for Lack of Subject Matter Jurisdiction (Doc. No. 565) must be **DENIED;**

2. ION's Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103 (Doc. No. 550) must be **DENIED;**

3. ION's Request for Findings and Conclusions on Enablement and, Alternatively, Motion for New Trial (Doc. No. 552) must be **DENIED;**

4. ION's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non–Infringement (Doc. No. 556) must be **DENIED;**

5. ION's Motion for New Trial on Infringement Under 35 U.S.C. § 271(f)(2) (Doc. No. 557) must be **DENIED;**

6. ION's Motion for JMOL and New Trial Due to Incorrect Claim Construction (Doc. No. 561) must be **DENIED;**

7. ION's Motion for Entry of Findings and Conclusions of No Willful Infringement, Renewed Motion for Judgment as a Matter of Law of No Willful Infringement, and Alternative Motion for New Trial (Doc. No. 559) must be **GRANTED;**

8. WesternGeco's Motion for Willfulness and Enhanced Damages (Doc. No. 560) must be **DENIED;**

9. WesternGeco's Motion to Find this Case Exceptional Under Section 285 and for Attorneys' Fees (Doc. No. 554) must be **DENIED;**

10. ION's Motion for JMOL, Motion for New Trial on Damages alternatively Motion for Remittitur (Doc. No. 562) must be **DENIED;**

11. WesternGeco's Motion for Prejudgment Interest and Post–Discovery Damages (Doc. No. 553) must be **GRANTED;**

12. WesternGeco's Motion for Costs (Doc. No. 555) must be **GRANTED in part and DENIED in part;**

13. ION's Motion to Compel Production of Documents From WesternGeco (Doc. No. 609) must be **DENIED;**

14. WesternGeco's Motion for a Permanent Injunction or, in the Alternative, an Ongoing Royalty (Doc. No. 558) must be **GRANTED.**

I. BACKGROUND

This is a patent infringement case originally brought by WesternGeco L.L.C. ("Plaintiff" or "WesternGeco") against ION Geophysical Corporation ("ION"). At issue in this case is marine seismic streamer technology that is deployed behind ships. These streamers, essentially long cables, use acoustic signals and sensors to create three-dimensional maps of the subsurface of the ocean floor in order to facilitate natural resource exploration and management. For many seismic studies, greater control over the depth and lateral position of streamers is important in order to achieve optimal imagery from the signals and to maneuver around impediments such as rocks and oil rigs.

WesternGeco's patents all pertain to streamer positioning devices, or devices that are used to control the position of a streamer as it is towed. At trial, WesternGeco argued that ION had infringed on four of its U.S. patents—U.S. Patent No. 7,293,520 (the "'520 Patent"); 7,162,967 (the "'967 Patent"), 7,080,607 (the "'607 Patent") ("Bittleston Patents" collectively); and U.S. Patent. No. 6,691,038 (the "'038 Patent" or "Zajac Patent").

After a three and a half week trial, the jury returned a verdict in favor of WesternGeco. (Doc. No. 536.) The jury found that ION infringed the '520 Patent, the '967 Patent, the '607 Patent, and the '038 Patent pursuant to Section 271(f)(1) & (2). The jury did not find anticipation or non-enablement of the '520 Patent or the '967 Patent. The jury did not find anticipation, obviousness or non-enablement of the '607 Patent or the ' 038 Patent. The jury did find that ION willfully infringed. The jury awarded $93.4 million in lost profits and a reasonable royalty of $12.5 million. Both parties have now filed numerous post-trial motions. The Court will address each of the motions in turn.

II. LEGAL STANDARDS

A. Judgment as a Matter of Law ("JMOL")

The Fifth Circuit reviews a district court's ruling on a motion for judgment as a matter of law *de novo*. *See Cambridge Toxicology Grp., Inc. v. Exnicios,* 495 F.3d 169, 179 (5th Cir. 2007). Judgment as a matter of law is appropriate "[i]f a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would

not have a legally sufficient evidentiary basis to find for the party on that issue." *See* Fed. R. Civ. P. 50(a)(1); *Gomez v. St. Jude Med. Daig Div. Inc.*, 442 F.3d 919, 927 (5th Cir. 2006). "The decision to grant a directed verdict ... is not a matter of discretion, but a conclusion of law based upon a finding that there is insufficient evidence to create a fact question for the jury." *Omnitech Int'l v. Clorox Co.*, 11 F.3d 1316, 1323 (5th Cir. 1994) (citations omitted) (internal quotation marks omitted). A legally sufficient evidentiary basis requires more than a mere scintilla of evidence. *Hollywood Fantasy Corp. v. Gabor*, 151 F.3d 203, 211 (5th Cir. 1998).

The trial court is required to consider the entire record when considering a renewed judgment as a matter of law motion. *Reeves v. Sanderson Plumbing Prod., Inc.*, 530 U.S. 133, 149–50 (2000). Therefore, a court "should consider all of the evidence—not just that evidence which supports the non-mover's case—but in the light and with all reasonable inferences most favorable to the party opposed to the motion." *Goodner v. Hyundai Motor Co., Ltd.*, 650 F.3d 1034, 1040 (5th Cir. 2011).

B. Rule 59 Motion for New Trial

The district court's ruling on a Rule 59 motion for new trial is reviewed for an abuse of discretion. *Beckham v. Louisiana Dock Co., L.L.C.*, 124 Fed. Appx. 268, 270 (5th Cir. 2005). A district court can grant a new trial under F.R.C.P. 59(a) "for any reason for which a new trial has heretofore been granted in an action at law in federal court." A new trial should not be granted "unless, at a minimum,

the verdict is against the great weight of the evidence." *Dawson v. Wal-Mart Stores, Inc.*, 978 F.2d 205, 208 (5th Cir. 1992). The Court must again view the evidence "in a light most favorable to the jury's verdict, and the verdict must be affirmed unless the evidence points so strongly and overwhelmingly in favor of one party that the court believes that reasonable [jurors] could not arrive at a contrary conclusion." *Id.* "Where the jury could have reached a number of different conclusions, all of which would have sufficient support based on the evidence, the jury's findings will be upheld." *Id.* If an issue is raised for the first time on a motion for a new trial, the issue is waived. *Auster Oil & Gas, Inc. v. Stream*, 835 F.2d 597, 601 (5th Cir. 1988).

III. PARTIAL MOTION TO DISMISS

ION has filed a Partial Motion to Dismiss for Lack of Subject Matter Jurisdiction. (Doc. No. 565.) ION moves to dismiss for lack of subject matter jurisdiction with respect to WesternGeco's claims that ION infringed the Bittleston Patents. ION claims that WesternGeco does not own the Bittleston Patents and therefore lacks standing to sue for infringement.

A. Legal Standard

"Standing is a constitutional requirement pursuant to Article III and it is a threshold jurisdictional issue" that may be decided on a Rule 12(b)(1) motion. *Abraxis Bioscience, Inc. v. Navinta LLC*, 625 F.3d 1359, 1363 (Fed. Cir. 2010). WesternGeco bears the burden of proving standing

by a preponderance of the evidence. A case can be dismissed for lack of subject matter jurisdiction at any time. A court may consider evidence outside the pleadings when resolving a motion to dismiss for lack of subject matter jurisdiction under Rule 12(b)(1). *See Ramming v. U.S.*, 281 F.3d 158, 161 (5th Cir. 2001). Only a patent owner may have a remedy by civil action for infringement. *Paradise Creations, Inc. v. UV Sales, Inc.*, 315 F.3d 1304, 1308 (Fed. Cir. 2003). The Patent Act defines a patentee as the person to whom the patent as issued and any successors in title to the patentee. 35 U.S.C. § 100(d). Patent rights can only be assigned in writing. 35 U.S.C. § 261.

B. Chain of Title

ION argues that WesternGeco has not proved it has ownership of the Bittleston patents, and therefore, its standing to sue. WesternGeco has provided ION two types of documents, a Merger Agreement between Schlumberger Technology Corporation ("STC") and WesternGeco and assignments from the inventors to STC, but not from the inventors to WesternGeco. ION argues that WesternGeco must possess a written chain of title from the inventors. ION further argues that the USPTO assignment records do not contain any executed assignment document from the inventors to WesternGeco. Based on these facts, ION argues that WesternGeco has not proved it is the owner of the patents.

ION has never raised this issue in a motion before and had stipulated earlier in the suit that

WesternGeco did own the patents. While "[c]onsent of parties cannot give the courts of the U.S. jurisdiction ... the parties may admit the existence of facts which show jurisdiction, and the courts may act judicially upon such admission." *Ry. Co. v. Ramsey*, 89 U.S. (22 Wall.) 322, 327 (1875). First, ION had stated in its Answer and Counterclaims that "[o]n information and belief, the Bittleston Patents were assigned to WesternGeco." (Doc. No. 6 ¶ 106.) In the same Answer, ION also stated it did not know for certain whether WesternGeco owned the patents, but proceeded for three years as if WesternGeco did own them. Second, ION agreed the jury should be instructed that WesternGeco owns the patents and is entitled to collect damages. ION now attempts to assert a position that is wholly different from its position regarding patent ownership throughout this litigation.

Additionally, the Patent Office issued each of the Bittleston patents to WesternGeco as the "Assignee." The entity to whom the Patent Office issues a patent is the presumptive owner. ION has the burden to rebut that presumption, which it has not done. Conversely, WesternGeco has presented sufficient evidence to prove its ownership of the patents. WesternGeco presented evidence at the trial that the inventors assigned their patent to STC. Then in the November 30, 2000 Technology Transfer Agreement, STC transferred and assigned the patents to WesternGeco. That agreement stated:

> STC agrees to and hereby does grant, transfer and assign to [WesternGeco] with regard to the

> Territory all of STC's rights, title and interest in and to the Intellectual Property in existence."

"Intellectual Property" was defined in the agreement to include any patent rights. ION argues that an "agreement" to assign is not the same as assigning. However, the language of the agreement states clearly that STC "agrees to and hereby does grant, transfer, and assign." The Court is satisfied that WesternGeco was assigned the rights.

ION further argues that the assignment to STC occurred in 2001. Since STC and WesternGeco merged in 2000, STC did not have the patent rights to assign and therefore the patents still belonged to STC. The Court finds this argument unconvincing. The 2001 assignments state that the inventors "acknowledge [they] have sold, assigned, transferred and conveyed" the U.S. patent rights to STC. (Doc. No. 606, Ex. 11 at WG 955146; Ex. 12 at WG 955144.) This is a confirmation of the inventors' assignments to STC that dates back to the 1998 Cost Sharing Agreement, which states:

> Ownership of the Patent Rights ... shall be vested in the Participants in their Respective Areas. (Doc. No. 606, Ex. 10 at WG 955272.)

STC was designated the "Participant" for the "Respective Area". Therefore, STC owned the patents when it assigned the patents to WesternGeco in 2000.

ION has proceeded throughout the years as if WesternGeco owned the patents and the record reflects that WesternGeco does own the patents by written assignment. Therefore, the Court must deny ION's Motion to Dismiss.

IV. INVALIDITY

ION has filed a Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103. (Doc. No. 550.) ION moves for a new trial on the basis that all the asserted patent claims but two are invalid as anticipated or obvious under 35 U.S.C. §§ 102 and 103. Specifically, ION contends that Claim 18 of the '520 Patent and Claim 15 of the '607 Patent were anticipated by U.S. Patent No. 5,790,472 ("Workman Patent"). Claim 14 of the '038 Patent was anticipated by International Application Publication WO 2000/20895 (the "'895 Publication"). Also, ION asserts that Claim 15 of the ' 967 Patent and Claim 15 of the '607 Patent were obvious based on the combination of the Workman Patent; and the International Application Publication WO 98/28636 (the "'636 Patent") and Claim 14 of the '038 Patent were made obvious by the '895 Patent. After considering the arguments, the Court finds that the jury's verdict was reasonable and there was no indication of unfairness to warrant a new trial. This motion must be denied.

A. Anticipation

A patent is invalid as anticipated under 35 U.S.C. § 102 when "every element and limitation of the claim was previously described in a single prior art reference, either expressly or inherently, so as to

place a person of ordinary skill in possession of the invention." *Sanofi–Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008). The standard for proving anticipation is clear and convincing evidence. *Id.* The prior art that ION asserts anticipates WesternGeco's patents were all considered by the United States Patent and Trademark Office ("PTO") during prosecution, yet the PTO still granted WesternGeco the patents at issue. While not dispositive, this is further evidence the jury could have relied upon when reaching its verdict. At trial, the jury decided that WesternGeco's patents were not anticipated and ION has not met the clear and convincing evidence standard to prove otherwise.

1. Claim 18 of the '520 Patent

ION claims that the Workman Patent anticipated Claim 18 of the '520 Patent. However, the jury could reasonably find from evidence and testimony presented at trial that the Workman Patent does not teach or enable lateral steering or the "streamer positioning devices" claimed in the Bittleston Patents. The streamer positioning devices mentioned in the Workman Patent refers to depth control devices, not lateral positioning devices as used in the Bittleston patents. (Doc. No. 574 p. 7.)

Likewise, ION claims that the Workman Patent anticipates this claim because it discloses the "streamer separate mode." The Court construed "streamer separation mode" to mean "a control mode that attempts to set and maintain the spacing between adjacent streamers" (Doc. No. 120 p. 45.)

The Workman Patent states only that a "threshold parameter" of "at least 100 meters" be maintained. (Doc. No. 583 p. 5.) This threshold parameter does not specify that a precise spacing be set and maintained between adjacent streamers. WesternGeco aptly points out that, without maintaining any space, the streamers could range from 100 meters apart to 100 miles. (Doc. No. 602 p. 3.) With this, and other evidence and testimony, the jury could reasonably find that Claim 18 of the '520 Patent was not anticipated.

2. Claim 15 of the '607 Patent

ION argues that the Workman Patent anticipates Claim 15 of the '607 Patent by disclosing limitation (a), (b), and (c) of the Claim. Claim 15 states:

> (a) a plurality of streamer positioning devices on or inline with each streamer,
>
> (b) a prediction unit adapted to predict positions of at least some of the streamer positioning devices,
>
> (c) a control unit adapted to use the predicted positions to calculate desired changes in positions of one or more of the streamer positioning devices.

However, at trial, ION's expert witness, Robert Brune admitted that Claim 15 of the '607 patent requires lateral steering and Workman does not enable lateral steering. To anticipate, a patent must teach and enable all claim limitations. Since

lateral steering is a limitation of Claim 15, it is reasonable that the jury would conclude that Claim 15 of the '607 Patent was not anticipated.

3. Claim 14 of the '038 Patent

ION argues that Claim 14 of the '038 Patent is anticipated based on the '895 Publication, which discloses all of the limitations of Claim 14. However, Mr. Brune admitted at trial that the '895 Publication does not disclose the 4D surveys claimed in the '038 Patent. The jury could weigh this evidence and testimony and conclude that Claim 14 was not anticipated.

B. Obviousness

A patent is invalid for obviousness "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). "Obviousness is a legal determination that may be submitted to a jury with proper instruction." *In re Hayes Microcomputer Products, Inc. Patent Litigation,* 982 F.2d 1527, 1539 (Fed.Cir.1992). ION expressly agreed to submit the question of obviousness to the jury in the form of the special verdict form. (Doc. No. 536.) ION has not met its burden to overturn the jury's finding of nonobviousness.

1. Claim 15 of the '967 Patent

ION argues that Claim 15 of the '967 Patent is obvious based on the combination of the Workman Patent and the '636 Publication, which are prior art. Claim 15 reads:

> An array of seismic streamers towed by a towing vessel comprising:
>
> (a) a plurality of streamer positioning devices on or inline with each streamer, at least one of the streamer positioning devices having a wing;
>
> (b) global control system transmitting location information to at least one local control system on the [*sic*] at least one streamer positioning device having a wing, the local control system adjusting the wing.

However, ION has failed to show that any person of ordinary skill in the art would have selected and combined these prior art elements in the normal course of research and development to yield the claimed invention. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). ION has not met its burden to overturn the jury's finding of nonobviousness.

2. Claim 15 of the '607 Patent

ION argues that Claim 15 of the '607 Patent is obvious based on the combination of the Workman Patent and the '636 Publication, which are prior art. At trial, Mr. Brune explained that the Workman Patent, '636 Publication and '607 Patent are in the

same field. Therefore, ION argues, a person of ordinary skill in the art would be motivated to combine the Workman Patent and the '636 Publication. However, ION fails to explain how the combination could disclose and enable all of these limitations and harmonize the differences in the two patents. *In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005) ("To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."). ION has not met its burden to overturn the jury's finding of nonobviousness.

3. Claim 14 of the '038 Patent

ION argues that Claim 14 is obvious based on the '895 Publication. Mr. Brune testified that, even assuming that the tracking systems are not expressly or inherently disclosed in the '895 Publication, they would have been obvious to a person having ordinary skill in the art. Mr. Brune further testified that, at least since the late 1980s, compass navigation, acoustic navigation, and satellite navigation have existed. However, Mr. Brune also remarked during cross examination that using laterally steerable streamers in order to match a later survey to a reference position from a prior survey or reference file "is definitely a notable improvement." (Trial Tr. At 3988:20–25.) The jury could weigh this admission and reasonably conclude that Claim 14 was not obvious.

ION has not demonstrated that the jury's verdict on anticipation or obviousness was against the great weight of the evidence. *See Dresser–Rand*

Co. v. Virtual Automation, Inc., 361 F.3d 831, 838–39 (5th Cir. 2004). Therefore, ION's Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103 must be denied.

V. ENABLEMENT

ION has filed a Request for Findings and Conclusions on Enablement and, Alternatively, Motion for New Trial. (Doc. No. 552.) The Patent Act states:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

35 U.S.C.A. § 112.

To be enabled, a patent specification must provide sufficient information to enable a person skilled in the relevant art to make and use the claimed invention without undue experimentation. The Federal Circuit has set forth the following factors that courts may weigh in deciding whether a disclosure would require undue experimentation:

1. the quantity of experimentation necessary;

2. the amount of direction or guidance presented;

3. the presence or absence of working examples;

4. the nature of the invention;

5. the state of the prior art;

6. the relative skill of those in the art;

7. the predictability or unpredictability of the art; and

8. the breadth of the claims.

Martek Biosciences Corp. v. Nutrinova, Inc., 579 F.3d 1363, 1378 (Fed. Cir. 2009). ION must "prove invalidity based on nonenablement by clear and convincing evidence." *MagSil Corp. v. Hitachi Global Storage Technologies, Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012). After considering the motion, all responses, oral argument, and the applicable law, the Court must deny this motion.

A. Findings and Conclusions

ION claims that the Court must state its findings of facts and conclusions of law because the enablement question was sent to the jury as an "advisory determination." Rule 52(a)(1). However, both parties agreed to submit the question of enablement to the jury and neither party indicated this was merely an advisory verdict. The Federal Circuit has held that "it is not error to submit legal questions to the jury as part of a Rule 49(a) special verdict form, since the answer to the legal question necessarily resolves any disputed underlying factual

issues, the court must accept implicit factual findings upon which the legal conclusion is based when they are supported by substantial evidence." *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1359 (Fed. Cir. 2012). The Federal Circuit has held that enablement is a question of law, but "is amenable to resolution by the jury where the issues are factual in nature." *BJ Services Co. v. Halliburton Energy Services, Inc.*, 338 F.3d 1368, 1372 (Fed. Cir. 2003). Therefore, the Court need not enter findings and conclusions of law since the question was properly submitted to the jury.

B. New Trial

In the alternative, ION moves for a new trial on enablement on the Bittleston Patents (composed of Claims 18, 19, 23 of '520 Patent; Claim 15 of '967 Patent; and Claim 15 of the '607 Patent), and Claim 14 of the Zajac Patent ('038 Patent).

1. Bittleston Patents

The Bittleston Patent claims in suit require a control system and ION argues that there is not sufficient information to enable a deterministic control system. ION relies on the trial testimony of two witnesses for this assertion. Dr. Thomas Edgar stated that "[i]t would require an extreme amount of experimentation" to execute the control system. (Trial Tr. 3146:14–18.) A former WesternGeco employee, James Martin, said that crucial information was not disclosed so as to maintain a trade secret. (Trial Tr. 3671:5–3674:10.)

However, ION's expert, Dr. Edgar, admitted in cross-examination that there is no mention of deterministic calculations, and since this is not a claimed invention, it need not be enabled. Dr. Edgar also testified that a person of ordinary skill in the art could use a "simple feedback control loop" with the patent's disclosure to make and use the claimed control modes. (Trial Tr. 3148:11–3150:19.) Furthermore, Mr. Martin stated that he did not know whether the withheld information had to do with the control mode. This testimony, from witnesses not under WesternGeco's control, are sufficient to support a jury verdict that the Bittleston Patents were enabled, and ION has not met the standard of clear and convincing evidence to warrant a new trial.

2. Zajac Patent

ION claims that Claim 14 of the Zajac Patent is not enabled because it fails to teach one skilled in the art how to make or use the invention in order to determine what positioning commands to issue to active streamer positioning devices. ION cites various parts of Mr. Zajac's testimony in which Mr. Zajac admits that the device is very complex and the patent does not enable one to implement the claimed invention. However, WesternGeco presented testimony that the Zajac Patent is an improvement of the Bittleston Patents and it explicitly builds on and cites to those patents. Mr. Brune also testified that the Zajac Patent, read in conjunction with the Bittleston Patents, enabled the claimed invention. Furthermore, other portions of Mr. Zajac's testimony reveal that Mr. Zajac did not include some specifications because those practices were already

known to and available to one of ordinary skill in the art. *Koito Mfg. Co. v. Turn–Key–Tech., LLC*, 381 F.3d 1142, 1156 (Fed. Cir. 2004) (a patentee does not "need to include in the specification that which is already known to and available to one of ordinary skill in the art."). Furthermore, ION's expert, Dr. Edgar, also conceded on cross-examination that the active streamer positioning device was enabled. (Trial Tr. at 3167:19–23.) The jury had the opportunity to weigh this evidence and the verdict is not against the great weight of evidence. Therefore, ION has not shown that a new trial is warranted on enablement and its motion should be denied.

VI. Non–Infringement

ION's has filed a Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non–Infringement (Doc. No. 556) on all claims because it asserts that no claims have been infringed. WesternGeco asserted that the following claims were literally infringed: Claims 18, 19 and 23 of the '520 Patent; Claim 15 of the ' 967 Patent; Claim 15 of the '607 Patent; and Claim 14 of the '038 Patent. To literally infringe, the accused system must embody every claim limitation as construed by the court. *Gen. Elec. Co. v. Nintendo Co.*, 179 F.3d 1350, 1357–58 (Fed. Cir. 1999). WesternGeco also asserted that the following claims were infringed under the doctrine of equivalents ("DOE") if they were not literally infringed: Claims 18, 19 and 23 of the '520 Patent; and Claim 15 of the '967 Patent. DOE requires that the accused system contain each limitation of the claim or its equivalent. *Warner–Jenkinson Co. v. Hilton Davis Chem. Co.*,

520 U.S. 17, 40 (1997). A claim limitation is "equivalently present in an accused device if only 'insubstantial differences' distinguish the missing claim element from the corresponding aspects of the accused device." *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1309–10 (Fed. Cir. 2002). Each of the claims are discussed below, but ultimately, the Court must deny ION's motion.

A. Claims 19 and 23 of the '520 Patent

ION argues that Claims 19 and 23 of the '520 Patent do not infringe literally or under the Doctrine of Equivalents. ION argues that Claim 19 does not infringe literally because ION's system does not include a "feather angle mode." The Court construed "feather angle mode" to mean "a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle." (Doc. No. 530, "Jury Instructions", No. 6.) ION argues that only the ghost streamer, and not "each streamer," is set to the feather angle. However, sufficient evidence supports the jury's verdict that Claim 19 of the '520 Patent was literally infringed. The remaining streamers align themselves with the reference streamer at that same feather angle. A number of Fugro's and ION's employees and customers testified at trial that ION's system operates in feather mode. (Trial Tr. 3468:25–3469:8, 3474:19–25 (Daniel Seale, ION's senior systems engineer); *id.* at 2055:12–15, 2062:7–9, 3340:17–3342:1, 3353:2–11, 3362:14–23, 3433:15–24, 3435:3–3436:6 (Crawford Macnab, ION's Orca software project manager); *id.* at 1008:5–7, 1009:4–8, 1013:22–1014:19, 1024:21–1025:10, 1028:18–22,

1030:1–3 (Leif Morten By, Fugro's former Navigation Manager); *id.* at 3025:8–13 (David Moffat, ION's Senior Vice President)). The jury could reasonably determine that there was literal infringement.

ION argues that Claim 23 of the '520 Patent does not infringe literally because it does not have the "feather angle mode" or a "turn control mode." ION argues that, because there is no feather angle mode and the "turn control mode" depends on it, there is no literal infringement. However, the preceding paragraph demonstrates that there is not enough evidence to overturn the jury's verdict on "feather angle mode." As for the "turn control mode," the Court construed it to mean a "mode wherein streamer positioning device(s) generate a force in the opposite direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode." (Jury Instruction, No. 6.) ION argues that both DigiBIRD and DigiFIN products would have to "generate a force in the opposite direction", but the DigiBIRD is undisputedly a depth-control device only that cannot generate forces in the opposite direction of a turn. Evidence and testimony at trial showed that DigiFIN products did generate a force in the opposite direction of the turn. Literal infringement does not depend on DigiBIRD products also generating a force in the opposite direction. The Court's construction did not require all of the streamer positioning devices to participate in the turn control mode, only one or more devices. Therefore, the jury could have found that DigiFIN's turn control mode was sufficient to literally infringe Claim 23 of the '520 Patent. ION has not shown that the weight of the

evidence was against the jury's verdict on Claims 19 and 23 of the '520 Patent.

B. Claim 15 of the '607 Patent

Claim 15 of the '607 Patent reads:

> An array of seismic streamers towed by a towing vessel comprising:
>
> ...
>
> (b) a prediction unit adapted to predict positions of at least some of the streamer positioning devices ...

ION argues that Claim 15 of the '607 Patent cannot be infringed because of how the word "predict" is defined. ION argues that the jury instructions obligate the jury to apply the ordinary meaning of the term "predict" because the Court did not construe the term. ION claims that the plain and ordinary meaning of the term "predict" requires a future element, and ION's devices do not tell the future positions of the streamer position devices. ION made this argument before this Court previously and this Court held that "predict" is not limited to future "wall-clock" times. The Court held that the future sense of "predict" is not the plain and ordinary meaning of "predict" to a person of ordinary skill in the art. Predict could mean using a past position to "predict" position at a later time, such as the present position. At an earlier time, this Court rejected ION's construction of "predict" and finds no reason to overturn its decision now. Therefore, ION's Motion for JMOL or New Trial on claim 15 of '607 Patent must be denied.

C. Claim 15 of the '967 Patent

Claim 15 of the '967 Patent reads:

> An array of seismic streamers towed by a towing vessel comprising:
>
> ...
>
> (b) a global control system transmitting location information to at least one local control system ...

The Court construed "location information" to mean "information regarding location." (Jury Instruction, No. 6.) ION argues that its system does not transmit location information from the Lateral Controller to DigiFINs as required by Claim 15. However, WesternGeco presented testimony at trial by expert, Dr. Michael Triantafyllou, stating that the DigiFIN did receive the fin angle, which is "an equivalent concept, whether you send location or a fin calculated on location." (Trial Tr. 1463:9–22.) Other evidence was also presented at trial to show that this fin angle was location information. Crawford Macnab, ION's software project manager, confirmed that ORCA sends location information to the lateral controller and that the lateral controller manipulates and sends this location information to the DigiFIN. (Trial Tr. 2053:24–2054:4; *see also id.* at 3431:24–3432:4, 3433:7–10.) Sufficient evidence supports the jury's finding on Claim 15 of the '967 Patent.

D. Claim 14 of the '038 Patent

Relevant to ION's argument, Claim 14 of the '038 Patent reads:

> A seismic streamer array tracking and positioning system comprising:
>
> ...
>
> A master controller for issuing vertical and horizontal positioning commands to each ASPD for maintaining a specified array geometry;
>
> ...
>
> Compares the vertical and horizontal positions of the streamers versus time and the array geometry versus time to desired streamer positions and array geometry versus time ...

ION argues that it could not infringe literally since the Lateral Controller does not send "target depth" to the DigiFIN and it does not perform a comparison function as required by Claim 14. However, neither Claim 14 nor the Court's construction require "target depth" to be sent, merely "positioning commands" that are "signals or instructions to control positioning." (Doc. No. 120 p. 46.) WesternGeco presented evidence at trial that DigiFIN did just this. Additionally, evidence and testimony was presented to support a finding that DigiFIN compares desired streamer positions versus time. Dr. Triantafillou explained that ION's system "compares the vertical and horizontal positions of the streamers versus time and the array geometry

versus time to desired streamer positions and array geometry versus time." (Trial Tr. 1355:22–1370:24, 1443:4–14.) The jury could have reasonably relied on this information to reach its verdict.

ION also argues that its system does not include the "active streamer positioning device" ("ASPD") recited in Claim 24. An ASPD was construed by the Court as "a device capable of controlling the vertical and horizontal position of the seismic streamer". (Jury Instructions, No. 6.) Before trial, the Court decided that ION's DigiFIN device could control the vertical and horizontal position of the streamer, thereby preventing ION from arguing that DigiFIN was not an ASPD. (Doc. No. 402 p. 9.) ION argues that the Court decided wrongly because DigiFIN cannot control depth. ION does not present any new evidence and the Court need not overrule its previous decision that DigiFIN is an ASPD. Accordingly, ION's Motion regarding for Claim 14 of the '038 Patent must be denied.

VII. INFRINGEMENT UNDER 35 U.S.C. § 271(f)(2)

ION has filed a Motion for New Trial on Infringement Under 35 U.S.C. § 271(f)(2) (Doc. No. 557), claiming the evidence cannot support a finding that ION possessed the requisite knowledge to infringe 35 U.S.C. § 271(f)(2). Section 271(f) was enacted in response to the Supreme Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). The loophole presented in *Deepsouth* was that shipping an unassembled patented product abroad for later assembly avoids patent

infringement. This Court interpreted § 271(f)(2) to have the same intent requirement as contributory infringement under § 276(c). (Doc. No. 372 p. 7.) Specifically, this Court held that the intent requirement of § 271(f)(2) "requires a plaintiff to prove that the defendant (1) intended the combination of components; (2) knew that the combination he intended was patented; and (3) knew that the combination he intended would be infringing if it occurred in the United States." (*Id.*) Neither party disputes this statutory construction.

ION denies intent to infringe on all claims because it contends it did not know it was infringing. First, ION argues that it could not have intended to infringe Claim 19 of the '520 Patent because it reasonably understood that its system did not comprise the required feather angle mode. Second, ION argues it could not have intended to infringe Claim 23 of the '520 Patent because it required ION's system to have a feather angle mode and the turn control mode and ION claims it did not think its system had either of these modes. Third, ION argues it could not have intended to infringe Claim 15 of the '967 Patent because it did not think its system had location information. Fourth, ION argues it could not have intended to infringe Claim 15 of the '607 Patent because it did not think its system had a prediction unit. Lastly, ION argues it could not have intended to infringe Claim 14 of the '038 Patent because it asserts its system did not have a master controller or an ASPD.

However, ION does not dispute the jury's determination that neither the DigiFIN nor the

Lateral Controller has any substantial non-infringing uses. Nor does ION dispute that it knew that the DigiFIN and the Lateral Controller were especially made or adapted for use in the patented invention. The Supreme Court has held, "One who makes and sells articles which are only adapted to be used in a patented combination will be presumed to intend the natural consequences of his acts; he will be presumed to intend that they shall be used in the combination of the patent." *Metro–Goldwyn–Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 932 (2005). ION responds that the inquiry is not about intent, but knowledge, so *Grokster*, which concerns § 272(c), does not apply. However, in a previous Order, this Court noted that § 272(c) has the same intent requirement as § 272(f)(2). (Doc. No. 372 p. 7.) In *Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331 (Fed. Cir. 2010), the Federal Circuit held that because "appellants were aware of the ... patent, and [patentee] successfully showed that the accused devices did not have any substantial noninfringing uses", then "presum[ing] the requisite knowledge for contributory infringement ... was not erroneous." *Id.* at 1355. ION has not shown that the weight of the evidence is contrary to the jury's verdict to warrant a new trial. Therefore, this motion should be denied.

VIII. CLAIM CONSTRUCTION

ION has filed a Motion for JMOL and New Trial Due to Incorrect Claim Construction. (Doc. No. 561.) ION moves for JMOL or new trial for non-infringement of Claims 18, 19, and 23 of the '520 Patent, Claim 15 of the ' 967 Patent, and Claim 15 of the '607 Patent, claiming there was not sufficient

evidence to sustain the verdict of infringement under 35 U.S.C. § 271(f) when the correct construction of "streamer positioning device" is applied. ION similarly argues there is not sufficient evidence to sustain the verdict if the correct construction of "active streamer positioning device" is used with respect to Claim 14 of the '038 Patent. The Court already decided these claim constructions in 2010. (Doc. No. 120.)

It appears that ION's motion is procedurally improper since it failed to move under Rule 50(a) on the basis of an "incorrect claim construction." ION contends that it argued JMOL for non-infringement on each of the patents, but JMOL for non-infringement is not a motion for incorrect claim construction, which ION now argues. Second, ION failed to object to the jury instructions, which construed the terms at issue. Third, ION's motion could be understood as a motion for reconsideration of this Court's claim construction order (Doc. No. 120), in which case the motion is untimely since it comes two years after the order. It appears to the Court that ION is merely rehashing its prior claim construction arguments and has not presented any change in law or fact that would cause the Court to overturn its previous ruling. Therefore, ION's motion regarding incorrect claim construction must be denied.

IX. WILLFUL INFRINGEMENT

Both parties have filed motions on the issue of willful infringement. ION has filed a Motion for Entry of Findings and Conclusions of No Willful

Infringement, Renewed Motion for Judgment as a Matter of Law of No Willful Infringement, and Alternative Motion for New Trial. (Doc. No. 559.) WesternGeco has filed a Motion for Willfulness and Enhanced Damages. (Doc. No. 560.) In 2007, the Federal Circuit altered the willful infringement inquiry to one of recklessness. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007). The Federal Circuit requires a two-prong showing of recklessness by clear and convincing evidence. *Id.* The first prong requires a showing of objective recklessness and the second a showing of subjective recklessness. *Bard Peripheral Vascular, Inc. v. W.L. Gore & Associates, Inc.*, 682 F.3d 1003, 1005 (Fed. Cir. 2012) *cert. denied*, 133 S. Ct. 932 (2013). To establish objective recklessness, WesternGeco would have to prove that the "infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent. Once the threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk ... was either known or so obvious that it should have been known to the accused infringer." *Bard Peripheral Vascular, Inc. v. W.L. Gore & Associates, Inc.*, 682 F.3d at 1005. The objective prong is a question of law to be decided by the Court; the subjective prong is a question of fact that was decided by the jury. *Id.* at 1005–06. The Court had not yet decided the objective prong before the subjective prong was submitted to the jury, which found willful infringement. After considering the arguments made by each party, the Court finds no objective recklessness, and therefore, no willfulness.

A. Objective Recklessness

The Federal Circuit has recognized that "in ordinary circumstances, willfulness will depend on an infringer's prelitigation conduct." *Seagate*, 497 F.3d at 1374. The Court must base its determination of objective recklessness "on the record ultimately made in the infringement proceedings". *Bard*, 682 F.3d at 1008. WesternGeco argues that objective recklessness is proven because the jury found subjective recklessness and the Court ruled in favor of WesternGeco as a matter of law regarding ION's infringement of the ' 520 Patent, ION's defenses of laches, equitable estoppel, waiver, and unclean hands, and ION's § 101, written description, best mode and indefiniteness invalidity defenses. However, WesternGeco's assertion that the Court's grant of summary judgment and the jury's infringement findings are dispositive of the objective recklessness inquiry is incorrect. The Federal Circuit is clear that "[d]efeat of a litigation position, even on summary judgment, does not warrant an automatic finding that the suit was objectively baseless; all of the circumstances must be considered." *Aspex Eyewear Inc. v. Clariti Eyewear, Inc.*, 605 F.3d 1305, 1315 (Fed. Cir. 2010). Instead, to prove the objective prong, WesternGeco must show by clear and convincing evidence that "[ION] acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." *Bard*, 682 F.3d at 1005. Thus, WesternGeco has the burden to show that "no reasonable litigant could realistically expect success on the merits." *Id.* at 1006, 1008; *iLOR, LLC v. Google, Inc.*, 631 F.3d 1372, 1378 (Fed. Cir. 2011); *Old Reliable Wholesale,*

Inc. v. Cornell Corp., 635 F.3d 539, 544 (Fed. Cir. 2011).

ION claims that it was not unreasonable for it to rely on its belief that there was no infringement because it reasonably believed:

- Claim 19 of the '520 did not have a feather angle mode;
- Claim 23 of the '520 Patent did not have a feather angle mode or turn control mode;
- Claims of the '520 Patent did not have control systems;
- Claim 15 of the '967 Patent did not have location information;
- Claim 15 of the '607 Patent did not have a prediction unit;
- Claim 14 of the '038 Patent did not have a master controller or an ASPD.

1. Claims 18, 19, and 23 of the '520 Patent

At issue are the "feather angle mode" and the "turn control mode" limitations of these claims. The Court construed these modes as:

> *Feather angle mode:* a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle.

> *Turn control mode:* mode wherein streamer positioning device(s) generate a force in the opposite direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode.

(Doc. No. 120, 24–27, 45.) At trial, it was uncontroverted that ION's system does not set and maintain each streamer at a certain feather angle. Instead, ION's system only sets the "ghost streamer" at a specific feather angle. (Trial Tr. 3781:3–3784:9.) The Court finds that ION's defense against infringement is not objectively baseless in that no reasonable litigant could realistically expect to succeed. Likewise, the uncontroverted evidence at trial was that the streamer positioning devices in ION's system could not all generate a force in the opposite direction of a turn and then be directed to the position defined in the feather angle mode. (Trial Tr. 3786:7–23.) Specifically, the DigiBIRDs could not "generate a force in the opposite direction of the turn." Though the jury found in favor of WesternGeco, ION's defense for turn control mode was not unreasonable.

2. The '607 Patent

Claim 15 of the '607 Patent requires "a prediction unit adapted to predict positions of at least some of the [SPDs]." ION claims that the use of the word "predict" led it to believe the claim required a forecasting of future positions rather than an estimation of current positions. Though the Court ultimately construed the term "predict" to mean the ability to not be bound by wall-clock times and could

mean present time, ION's argument is not unreasonable by clear and convincing evidence.

3. The '967 Patent

WesternGeco contends that ION's user manual and DigiFIN's product specification both describe transmission of location information from a global control system to a local control system as in Claim 15 of the '967 patent. Claim 15 of the '967 Patent requires "a global control system transmitting location information to at least one local control system on the at least one [SPD]." ION construed an SPD to have the capacity to steer both laterally and vertically. (Doc. No. 73 p. 6.) Therefore, because the DigiFINs only receive a fin angle command from the alleged global control system, it did not transmit "information regarding location." (Trial Tr. 2767:9–25.) It was ION's position that the fin angle does not represent the location, latitude, longitude, depth, or lateral position to which the DigiFIN is to be moved. (Trial Tr. 3451:22–25, 3462:16–3463:24.)

WesternGeco argues that infringement of this claim was objectively reckless because a third party, StatoilHydro, conducted an infringement investigation and concluded that the '967 Patent "clearly envisages a system working along broadly the same lines as described above in relation to ION." (Doc. No. 560 p. 8.) The parties argue about the admissibility of the investigation for the truth of the matter asserted. However, the Court need not reach that point in the objective recklessness inquiry. The Federal Circuit has delineated the purposes of each of the prongs:

> *Seagate* established a two-pronged test for establishing the requisite recklessness. Thus, to establish willful infringement, "a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." Once the "threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk ... was either known or so obvious that it should have been known to the accused infringer."

Bard, 682 F.3d at 1005 (citations omitted). Therefore a third party's opinion regarding ION's possible infringement is more appropriate for the subjective recklessness inquiry rather than for objective recklessness. Focusing only on ION's asserted defenses, the Court does not find them objectively baseless.

4. The '038 Patent

The Court construed an ASPD as a device capable of controlling the vertical and horizontal position of the seismic streamer. (Doc. No. 120 p. 46.) ION's litigation defense for the '038 Patent was that DigiFIN was not an ASPD because the DigiFIN could not be commanded to steer a streamer to a particular depth and lateral position so as to maintain a specified array shape. (Trial Tr. 3499:15–3500:2.) ION further argued that it believed its system did not consist of a master controller for

issuing vertical and horizontal positioning commands to each ASPD for maintaining a specified array geometry. The Court finds and holds that this was a reasonable defense.

5. ION's Invalidity Defenses

ION's defenses at trial were lack of enablement, anticipation and obviousness. The Court considered ION's defenses above in ION's Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103. (Doc. No. 550.) Though the Court does not find for ION on invalidity, its arguments are not objectively baseless. Therefore, the Court finds no objective recklessness.

B. Subjective Prong

Because the Court finds no objective recklessness, the threshold standard, it need not evaluate the jury's finding of subjective recklessness for reasonableness. WesternGeco must prove both subjective and objective recklessness by clear and convincing evidence. Since WesternGeco has not proven objective recklessness by clear and convincing evidence, the Court finds no willful infringement.

X. EXCEPTIONAL

WesternGeco has filed a Motion to Find this Case Exceptional Under Section 285 and for Attorneys' Fees. (Doc. No. 554.) "The court in exceptional cases may award reasonable attorney fees to the prevailing party." 35 U.S.C. § 285. The award of attorneys' fees serves as a "deterrent[ ] to blatant, blind, willful infringement of valid patents." *Mathis v. Spears*, 857 F.2d 749, 754 (Fed. Cir. 1988).

The first step is to decide whether the case is exceptional by clear and convincing evidence within the meaning of § 285. *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989). Second, if the case is deemed exceptional, the Court must determine whether an award of fees is appropriate and, if so, in what amount. *Highmark, Inc. v. Allcare Health Mgmt. Sys., Inc.*, 687 F.3d 1300, 1308 (Fed. Cir. 2012).

To find a case exceptional, there must be some "material inappropriate conduct related to the matter in litigation, such as willful infringement, fraud or inequitable conduct in procuring the patent, misconduct during litigation, vexatious or unjustified litigation, conduct that violates Fed. R. Civ. P. 11, or like infractions." *Brooks Furniture Mfg., Inc. v. Dutailier Int'l, Inc.*, 393 F.3d 1378, 1381 (Fed. Cir. 2005). "Litigation misconduct generally involves unethical or unprofessional conduct by a party or his attorneys during the course of adjudicative proceedings." *Highmark*, 687 F.3d. at 1315–16. Further, a lawyer's conduct cannot be evaluated with the benefit of hindsight. *Christiansburg Garment Co. v. EEOC*, 434 U.S. 412, 421–22 (1978). If the court finds the case to be exceptional, then it can determine whether attorneys' fees are appropriate. *Beckman Instruments, Inc.*, 892 F.2d at 1551. "[B]efore imposing sanctions under its inherent power, a court must make a specific finding that the sanctioned party acted in "bad faith." " *Maguire Oil Co. v. City of Houston*, 143 F.3d 205, 209 (5th Cir. 1998).

WesternGeco makes a number of arguments as to why the Court should find this case exceptional. Each will be discussed in turn, and ultimately, the Court finds that this case is not exceptional.

A. Willfulness

A finding of willfulness does not require a finding that a case is exceptional under § 285. *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1582 (Fed. Cir. 1992) (affirming district court decision declining to find a case exceptional despite a jury finding of willfulness due, in part, to the closeness of the willfulness question); *Laitram Corp. v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997) (affirming district court's finding case not exceptional and denial of attorneys' fees despite jury's willfulness finding given infringer's presentation of a good faith defense against willfulness and substantial challenge to infringement). However, as discussed above, the Court found no willful infringement so this cannot be a factor in favor of finding the case exceptional.

B. Vexatious Litigation and Other Litigation Misconduct

Another criteria for declaring a case exceptional includes vexatious litigation and litigation misconduct. "Any attorney ... who so multiplies the proceedings in any case unreasonably and vexatiously may be required by the court to satisfy personally the excess costs, expenses, and attorneys' fees reasonably incurred because of such conduct." 28 U.S.C. § 1927. An exceptional case based on litigation misconduct is reserved for

extreme cases. Such sanctions are an extraordinary remedy that should be "sparingly applied." *FDIC v. Calhoun*, 34 F.3d 1291, 1297 (5th Cir. 1994). A court "may not shift the entire financial burden of an action" under § 1927 "except when the entire course of proceedings were unwarranted and should neither have been commenced nor persisted in." *Calhoun*, 34 F.3d at 1297.

WesternGeco claims ION was a vexatious litigant because it asserted meritless defenses and counterclaims; used unnecessary tactics such as Hague requests during discovery; and filed repeated motions for reconsideration. According to WesternGeco, vexatious litigation tactics during trial included attempting to re-litigate infringement and inventorship and argue an irrelevant "own patent" defense. Further, vexatious tactics post-trial included new meritless defenses. However, the Court is not convinced that this conduct rises to the level of vexatious litigation or misconduct pursuant to § 1927. This was a complicated case that spanned many years and nearly a month of trial. ION initially had to defend itself against 163 claims of infringement, which would require a defense strategy that includes many filings, defenses, and arguments. The Court noted multiple times that the issues were close questions of law and fact. Furthermore, ION's defenses and counterclaims were hotly contested as evidenced by the long Memoranda and Orders issued by this Court. The Court has seen this case from its inception and does not find that ION's litigation conduct rises to the high level necessary to find this case exceptional.

XI. DAMAGES

ION moves for JMOL, new trial, or remittitur on damages. (Doc. No. 562.) ION claims that the $105.9 million award decided by the jury was based on two defective and overlapping damage models: lost profits and reasonable royalty. The jury awarded WesternGeco 100% of the lost profits it sought and 84% of the reasonable royalty it sought. This amounted to $93.4 million for lost profits and $12.5 million in reasonable royalty. "[A] decision on remittitur ... is within the sound discretion of the trial court ... and damages are set aside 'only upon a clear showing of excessiveness.' An excessive award exceeds the 'maximum amount calculable from the evidence.' " *Fractus, S.A. v. Samsung Elecs. Co.*, 876 F. Supp. 2d 802, 831 (E.D. Tex. 2012).

A. Lost Profits

1. Foreign Infringement

ION argues that the lost profits award must be vacated because it is not based on the domestic acts of infringement in this case but on the revenues that WesternGeco estimated its overseas competitors received for their non-infringing uses of ION's equipment in ten seismic surveys performed in foreign waters. ION says to do so is not permitted by § 271(f) and would give improper extraterritorial effect to U.S. law. ION insists that it can only be liable for "supplying" the component and cannot extend to subsequent "making" or "using" of a device abroad. However, Section 271(f)(1) in whole states:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

If ION were strictly held liable for supplying, then § 271(f) would lose all its weight, allowing a loophole for manufacturers to export components for infringing uses abroad. The legislative history noted that § 271(f) was intended to prevent copiers from avoiding U.S. patents by supplying components of a patented product in this country so that the assembly of the components may be completed abroad. Patent Law Amendments, Pub.L. No. 98–622, 1984 U.S. Code Cong. & Admin. News (98 Stat.) at 5828. This section of the patent law amendment was proposed in response to the U.S. Supreme Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972), which created a loophole in prior patent law, allowing copiers to avoid liability for products patented in the United States, by shipping the patented components for combination in foreign countries. The Federal Circuit and district courts have repeatedly awarded lost profits under § 271(f) based on lost foreign sales. *See, e.g., Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil*

Co., 425 F.3d 1366, 1378 (Fed. Cir. 2005), *overruled on other grounds* (approving reliance on "foreign sales for the purpose of recovering additional damages under 35 U.S.C. § 271(f)(2)."); *W.R. Grace & Co.—Conn. v. Intercat, Inc.*, 60 F. Supp. 2d 316, 321 (D. Del. 1999) (holding "plaintiff is entitled to damages based on Intercat's international sales.").

Furthermore, while 35 U.S.C.A. § 271(a) limits infringing sales to those sales made within the United States, lost profits based on an accused infringer's sales of a patented product in a foreign country may be properly recoverable as an item of lost profits if the patentee can show "a reasonable probability that but for the infringement," it would have made the foreign sales that were made by the accused infringer. Such foreign sales are only proper to include in the damage calculus when there is an act of infringement occurring in the United States directly associated with the foreign sale, such as the making of the product in the United States, if the predicates of § 271(f) can be met. 4 Annotated Patent Digest § 30:44. It was undisputed at trial that every DigiFIN that ION sold was made in and supplied from the United States. (*See, e.g.*, Trail Transcript 2788:22–2790:10.) Therefore, lost profits can appropriately be recovered from these infringing sales.

2. *Panduit* Test

Although not separately required, the *Panduit* factors support the jury's lost profits award. The *Panduit* test provides that to obtain profits on sales the patentee would have made but for the infringement, the patent owner must prove: (1)

demand for the patented product; (2) absence of acceptable non-infringing substitutes, (3) his manufacturing and marketing capability to exploit the demand, and (4) the amount of the profit he would have made. *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978).

The record evidence satisfies the *Panduit* test, which creates a presumption of "but for" causation when met. But before the *Panduit* factors are analyzed, the Court must address ION's argument that the *Panduit* test does not apply. ION proceeded before trial and during trial as if the *Panduit* test applied. Before trial, both parties agreed that the *Panduit* factors were appropriate. (Doc. No. 402 p. 6 ("Mr. Sims applied the methodological approach that all parties agree is appropriate by utilizing the *Panduit* factors.")) During trial, ION's damages expert, Mr. Gunderson, spent over an hour and a half explaining to the jury his analysis of the *Panduit* factors in this case. (*See, e.g.*, Trial Tr. 4665:16–4698:9, 4701:23–4742:5.) Even ION's actions aside, applying the *Panduit* factors was one appropriate means by which the jury could find lost profits. (Jury Instruction No. 19 ("it would have made the sales it says it lost but for the infringement."))

ION argues that even if the *Panduit* test is applicable, the factors are not met with sufficient evidence. The Court finds that WesternGeco presented sufficient evidence to prove each of the four prongs. First, ION conceded at trial that there was demand for the patented product. (Doc. No. 562

pp. 15–24; Trial Tr. 4669:9–4670:3.) Second, WesternGeco presented evidence regarding the Nautilus and eBird, which the jury could reasonably conclude were not acceptable, non-infringing alternatives available during the relevant time period. Third, WesternGeco presented evidence through Mr. Sims, who concluded that WesternGeco would have had 59 months of available capacity to perform the lost jobs, more than double the capacity required. (Trial Tr. 2266:5–2267:25, 2297:6–18, 2445:5–16.) Therefore, WesternGeco presented sufficient evidence for the jury reasonably to find that it had the capability to exploit the demand. Fourth, WesternGeco presented its lost profit calculation through the Customer Relationship Management ("CRM") database, which WesternGeco's damages expert, Raymond Sims, relied on in his calculations. ION argues the CRM was not reliable. However, the Court allowed the CRM into evidence and the jury had the opportunity to weigh the evidence. The *Panduit* factors were one way for the jury to find lost profits. Based on the evidence presented at trial, the jury could reasonably have found lost profits.

B. Reasonable Royalty

1. Double Counting

ION claims there was improper recovery of both measures of damages because a patentee may recover either lost profits or a reasonable royalty for each infringing act, but not both. *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301,

1324 (Fed. Cir. 2009) ("Two alternative categories of infringement compensation are the patentee's lost profits and the reasonable royalty he would have received through arms-length bargaining."). ION claims the jury was instructed in such a way that they could award both a reasonable royalty and lost profits for the same acts of infringement. However, the jury instructions were clearly worded to avoid double counting:

> If you find that WesternGeco has established infringement, WesternGeco is entitled to at least a reasonable royalty to compensate it for that infringement. If you find that WesternGeco has not proved its claim for lost profits, or has proved its claim for lost profits for only a portion of the infringing sales, then you must award WesternGeco a reasonable royalty for all infringing sales for which it has not been awarded lost profits damages.

(Jury Instruction No. 20.) The jury instruction is the exact wording of the Model Patent Jury Instructions provided by the Federal Circuit Bar Association:

> If you find that [patent holder] has established infringement, [patent holder] is entitled to at least a reasonable royalty to compensate it for that infringement. If you find that [patent holder] has not proved its claim for lost profits, or has proved its claim for lost profits for only a portion of the

> infringing sales, then you must award [patent holder] a reasonable royalty for all infringing sales for which it has not been awarded lost profits damages.

(Model Patent Jury Instruction p. 88.) ION did not object to this jury instruction at trial and even if it had, the instructions are worded clearly to avoid double counting.

2. Apportionment

ION argues that the reasonable royalty found by the jury fails to apportion the damages to account for the value of WesternGeco's patented improvement. ION argues that a reasonable royalty may be calculated on the sale of a product provided that the royalty reflects only the contribution of the patented technology, not the entire value of the product. ION claims WesternGeco's patents offer an improvement to existing technology rather than a revolutionary invention. At trial, on behalf of WesternGeco, Mr. Sims applied an analytical approach to quantifying the value of the patented technology. ION had the opportunity thoroughly to cross examine Mr. Sims at trial and the jury could make its own determinations of his credibility.

3. Marking

ION also argues it was erroneous for the Court to deny ION's requested marking instruction, allowing the jury to award excessive damages. When a patentee fails to show either that it marked or was not required to mark, the patentee is precluded from recovering damages for any infringement that occurred prior to the date the alleged infringer was

notified of the infringement. ION claims that, because Mr. Sims's testimony on the reasonable royalty included damages for infringement prior to the date of actual notice, the Court's failure to instruct on marking resulted in an improper award of damages. This Court has already considered and rejected ION's arguments regarding a marking instruction. (Doc. No. 562 p. 32; Doc. No. 508 p. 5; Doc. No. 530 p. 24.) ION has not presented new evidence that would require the Court to overturn its previous decisions.

XII. PREJUDGMENT INTEREST AND POST–DISCOVERY DAMAGES

A. Prejudgment Interest

WesternGeco has filed a Motion for Prejudgment Interest and Post–Discovery Damages. (Doc. No. 553.) ION does not dispute that prejudgment interest is appropriate, and both parties agree that the prejudgment interest should be compounded annually. The Supreme Court has interpreted 35 U.S.C. § 284[1]to mean that "prejudgment interest should ordinarily be awarded" in patent infringement cases. *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983). The only dispute is at what rate the interest is calculated. WesternGeco claims that the prejudgment interest

[1] "Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement ... together with interest and costs as fixed by the court." 35 U.S.C. § 284.

should be awarded at the Texas Statutory Rate.[2] ION argues that the prime rate should be used. The Federal Circuit has held that "[a] trial court is afforded wide latitude in the selection of interest rates, and may award interest at or above the prime rate." *Uniroyal, Inc. v. Rudkin–Wiley Corp.*, 939 F.2d 1540, 1545 (Fed. Cir. 1991) (affirming an award of prejudgment interest at the prime rate). *See also Bio–Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 (Fed. Cir. 1986) ("The rate of prejudgment interest and whether it should be compounded or uncompounded are matters left largely to the discretion of the district court."); *Paper Converting Mach. Co. v. Magna–Graphics Corp.*, 745 F.2d 11, 24, 223 U.S.P.Q. 591, 600 (Fed. Cir. 1984); *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 557, 222 U.S.P.Q. 4, 9–10 (Fed. Cir. 1984); *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1520, 220 U.S.P.Q. 929, 942 (Fed. Cir. 1984); *Lam, Inc. v. Johns–Manville Corp.*, 718 F.2d 1056, 1066, 219 U.S.P.Q. 670, 676 (Fed. Cir. 1983). In exercising that discretion, however, the district court must be guided by the purpose of prejudgment interest, which is "to ensure that the patent owner is placed in as good a position as he would have been

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[2] The Texas Statutory Rate is: (1) the prime rate as published by the Board of Governors of the Federal Reserve System on the date of computation; (2) five percent a year if the prime rate as published by the Board of Governors of the Federal Reserve System described by Subdivision (1) is less than five percent; or (3) 15 percent a year if the prime rate as published by the Board of Governors of the Federal Reserve System described by Subdivision (1) is more than 15 percent." Tex. Fin. Code Ann. § 304.003 (West).

had the infringer entered into a reasonable royalty agreement" and permits the patentee to recover "the forgone use of the money between the time of infringement and the date of the judgment." *Devex*, 461 U.S. at 655–56.

"Courts have recognized that the prime rate best compensates a patentee for lost revenues during the period of infringement because the prime rate represents the cost of borrowing money, which is "a better measure of the harm suffered as a result of the loss of the use of money over time." " *IMX, Inc. v. LendingTree, LLC*, 469 F. Supp. 2d 203, 227–28 (D. Del. 2007) (*citing Mars, Inc. v. Conlux USA Corp.*, 818 F. Supp. 707, 720–21 (D. Del. 1993), aff'd, 16 F.3d 421, 1993 WL 516659 (Fed. Cir. 1993)). Other courts have found that "[t]he prime rate, compounded quarterly, is a conservative, middle-of-the road approach that takes into account normal market fluctuations." *NTP Inc. v. Research in Motion, Ltd.*, 270 F. Supp. 2d 751, 763 (E.D. Va. 2003) amended, CIV.A. 3:01CV767, 2003 WL 22746080 (E.D. Va. Aug. 5, 2003). Therefore, the Court finds that the prime rate is the appropriate rate to be used in prejudgment interest. Since the parties have reached agreement, the interest will be compounded annually. Prejudgment interest should be awarded on both the lost profits and the royalty portions of the damages awarded for patent infringement. The interest should be awarded from the date of infringement to the date of judgment. ION is instructed to submit appropriate calculations to the Court within ten days.

B. Accounting

At the hearing on February 21, 2013, the Court ordered ION to submit its post-trial accounting because of a concern that ION's executive chairman and former CEO, Robert Peebler, was not truthful during his trial testimony. On August 13, 2012, Mr. Peebler testified under oath to the jury that ION had stopped selling DigiFIN after the Court's June 29, 2012 entry of summary judgment regarding Claim 18 of the '520 Patent. At the hearing, the Court asked ION if Mr. Peebler's testimony was truthful. ION's response was that ION Geophysical Inc. had not, but that ION Dubai, a foreign subsidiary of the Defendant, had.

ION filed its post-trial accounting which described two "sales" that occurred in September 2012. (Doc. No. 620.) ION argues that one of the "sales" was a delivery required under a March 2012 contract with Shanghai Offshore Petroleum Geophysical Corporation ("SOPGC"). ION argues that since the contract was signed in March 2012, before the Court's ruling, the sale also occurred in March 2012. The other sale was a sale and supply that occurred outside of the United States. The transaction was between ION S.a.r.l., a Luxemburg company, and a foreign buyer, where DigiFINs were shipped from Dubai to places outside of the United States. This is very troubling to the Court despite ION's argument that such "sales" were not sales in violation of the Court's order. At trial, WesternGeco had records of sales up until May 2011. These new records show that 1,353 more units were sold by ION than were disclosed at the time of trial. It also appears that ION relocated all of its U.S.

manufactured DigiFIN units to Norway the week after the Court's summary judgment decision.

The Court finds that WesternGeco is entitled to supplemental damages for ION's sales since May 2011. *See Stryker Corp. v. Davol, Inc.*, 234 F.3d 1252 (Fed. Cir. 2000) (affirming district court's decision that a court may award a successful patent plaintiff supplemental damages to compensate the plaintiff for any infringement occurring between the date of the jury's verdict and the date of the judgment.). Because the Court has only recently learned of the need for supplemental damages. WesternGeco is ordered to submit a motion regarding supplemental damages within 15 days.

XIII. COSTS

WesternGeco has filed a Motion for Costs in the amount of $535,542.03. (Doc. No. 555.) Local Rule 54.2, FRCP 54(d)(1), 35 U.S.C. § 284 and 28 U.S.C. § 1920[3] allows the prevailing party, to claim

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[3] A judge or clerk of any court of the United States may tax as costs the following:

> **(1)** Fees of the clerk and marshal;
>
> **(2)** Fees for printed or electronically recorded transcripts necessarily obtained for use in the case;
>
> **(3)** Fees and disbursements for printing and witnesses;
>
> **(4)** Fees for exemplification and the costs of making copies of any materials where the copies are necessarily obtained for use in the case;
>
> **(5)** Docket fees under section 1923 of this title;
>
> **(6)** Compensation of court appointed experts, compensation of interpreters, and salaries,

certain costs. The costs are "limited to relatively minor, incidental expenses." *Taniguchi v. Kan Pacific Saipan, Ltd.*, 132 S. Ct. 1997, 2006, (2012). A district court may decline to award costs enumerated in § 1920, but may not award costs not listed in the statute. *Crawford Fitting Co. v. J.T. Gibbons, Inc.*, 482 U.S. 437, 441 (1987). The specific costs are discussed below.

A. Costs Relating to Fees of the Clerk and Docket Fees

Costs relating to fees of the clerk and docket fees may be recovered as authorized by 28 U.S.C. § 1920(1) & (5). (Doc. No. 555, Ex. 2.) WesternGeco claims it incurred $350.00 in these fees and ION does not dispute this amount.

B. Costs Relating to Fees for Service of Summons and Subpoenas

WesternGeco has withdrawn its request for subpoena costs.

C. Costs Relating to Depositions and Transcripts

Video and written transcripts are recoverable under 28 U.S.C. § 1920(2). WesternGeco claims it incurred $399,052.36 in costs relating to depositions and transcripts. (Doc. No. 555, Ex. 4.) ION argues that a substantial part of that requested cost is not

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fees, expenses, and costs of special interpretation services under section 1828 of this title.

28 U.S.C.A. § 1920 (West).

recoverable. ION claims that the costs are bloated with incidentals, which are generally not recoverable.

1. Incidental Fees

First, ION argues that costs for synchronizing videotaped depositions ($25,340) are not recoverable. The Court agrees. Other courts have found that video synchronization is not a necessity but for the convenience of counsel. *See, e.g., U.S. ex rel. Gonzalez v. Fresenius Med. Care N. Am.*, 761 F. Supp. 2d 442, 450 (W.D. Tex. 2010) *aff'd sub nom. Gonzalez v. Fresenius Med. Care N. Am.*, 689 F.3d 470 (5th Cir. 2012) ("The Court finds, however, that video synchronization was a convenience to the parties and not a necessity."). The Fifth Circuit has held that "charges incurred merely for the convenience of one party's counsel should not be taxed to the other." *Fogleman v. ARAMCO (Arabian Am. Oil Co.)*, 920 F.2d 278, 286 (5th Cir. 1991). WesternGeco should not be able to recover for costs of video synchronizing.

Second, ION contests expenses for RealTime transcription of depositions ($11,911). Courts may award RealTime costs when it is found to be a necessary cost. *Kinzebaw v. Case LLC*, 05–1483, 2006 WL 1096683 (Fed. Cir. Apr. 26, 2006). This was a complex and lengthy trial. ION filed more than twenty briefs during trial which required responses from WesternGeco. The Court finds that RealTime was a necessary cost. Therefore, WesternGeco can recover the costs of RealTime.

Third, ION disputes fees charged by court

reporters for the original and **one copy** of deposition transcripts ($56,653.85). ION argues that, without a showing of necessity, extra copies of deposition transcripts are not recoverable. However, other courts in this district have held that an original and one copy are a "basic cost" and a necessity. *Krohn v. David Powers Homes, Inc.*, CIV. A. H–07–3885, 2009 WL 2605284 (S.D. Tex. Aug. 21, 2009). "Whether a deposition or copy was necessarily obtained for use in the case is a factual determination to be made by the district court." *Fogleman v. ARAMCO (Arabian Am. Oil Co.)*, 920 F.2d 278, 285 (5th Cir. 1991). The Court finds that this cost is recoverable.

Fourth, ION contests deposition costs in fees for original and one copy of depositions provided on an expedited basis ($88,394.36). Expedited costs are not taxable unless prior court approval is obtained or the special character of the litigation necessitates expedited receipt of the transcript. Expedited costs seem minimal based on third party invoices (Doc. No. 579 p.7 n.5 ("Two expedition charges (totaling $2996.78) are itemized.")), and the complicated nature of this case necessitated expediting depositions. WesternGeco may recover for these costs.

Lastly, ION contests fees for rough draft charges ($1,968). WesternGeco has made no argument that it should recover for rough draft charges, so the requested amount should also be reduced by that amount ($1,968). Therefore, the costs of video synchronizing ($25,340) and rough drafts of depositions ($1,968), which totals $27,308, are unrecoverable as incidental costs.

2. Video Files of Depositions

WesternGeco requests costs for obtaining video files of depositions ($51,361.07). Video depositions are generally recoverable under § 1920(2) and the Court will allow it here.

3. Deposition Transcription Costs Related to Fugro

ION contests the costs that relate to WesternGeco's claims related to Fugro. WesternGeco took 51 depositions in this case and of those, 18 related directly to Fugro. WesternGeco claims it only seeks its own costs from ION, not Fugro's costs, (Doc. No 585 p. 9) so the Court will allow this recovery.

4. Trial Transcripts Related to Fugro

ION also contests trial transcription costs related to Fugro. ION estimates that Fugro's witness examinations account for about 15% of the transcript. WesternGeco claims that it has already removed Fugro time. The Court finds that WesternGeco may recover this cost since it does not include Fugro time.

D. Costs Relating to Witnesses

WesternGeco originally sought $9,864.49 in witness fees. After objections from ION, WesternGeco reduces the amount sought to $7,147.97, which ION does not dispute.

E. Costs Relating to Exemplification, Copies, and Printing

WesternGeco seeks $109,036.93 in costs relating to exemplification, copying and printing. ION disputes a portion of these charges. First, ION disputes $26,010.94 in costs for processing documents produced to ION, including charges for litigation support, creating databases, and creating TIFF images. WesternGeco does not make an argument for costs associated with litigation support or creating databases and has not met its burden to demonstrate these costs are necessary. WesternGeco may not recover the $26,010.94.

Second WesternGeco seeks to recover $28,002.54 in costs processing documents produced by ION, namely converting ION's documents into another format to make them searchable. ION did produce a large number of documents, but this cost was for the convenience of attorneys rather than a necessity. Therefore, WesternGeco may not recover the $28,002.54.

Third, WesternGeco requests $32,522 in costs of up to six copies of a variety of documents used for trial. WesternGeco does not segregate the costs nor make an argument for why it should recover these costs. ION estimates that the costs of copies for trial should be reduced by 15%, or $4,878.30, which the Court accepts.

Fourth, WesternGeco seeks $5,099 in costs for office supplies. These are incidentals not enumerated in the statute and therefore not recoverable.

F. Costs Relating to Court-Appointed Experts

WesternGeco requests $14,100 for the costs of the Court's appointed expert. ION argues that a portion of this cost should be attributable to Fugro, but WesternGeco states that this is the cost to WesternGeco, not Fugro's cost. Therefore, the Court finds this is an appropriate amount for WesternGeco to recover.

G. Conclusion

In conclusion, from WesternGeco's requested amount of $535,542.03, the following amounts should be subtracted because they are not recoverable costs:

- Less $3,138.25 for WesternGeco's withdrawn subpoena costs;
- Less $25,340 for video synchronization;
- Less $1,968 for rough drafts of transcripts;
- Less $2,716.52 for WesternGeco's reduction of costs related to witnesses;
- Less $26,010.94 in costs for processing documents produced to ION, including charges for litigation support, creating databases, and creating TIFF images;
- Less $28,002.54 in costs processing documents produced by ION, namely converting ION's documents into another format to make them searchable;
- Less $4,878.30 for multiple copies;

- Less $5,099 in costs for office supplies.

WesternGeco can recover costs in the amount of $438,388.48.

XIV. PERMANENT INJUNCTION; ONGOING ROYALTY

WesternGeco has filed a Motion for a Permanent Injunction or, in the Alternative, an Ongoing Royalty. (Doc. No. 558.) Related to this motion, ION has filed a Motion to Compel Production of Documents From WesternGeco. (Doc. No. 609.)

A. Motion to Compel

ION asks the Court to compel production of the Fugro license agreement ("Fugro license"), letters to ION's customers and potential customers seeking to begin negotiations to enter into additional licensing agreements, and all related documentation ("Licensing Documents"). ION claims this information is directly relevant to WesternGeco's request for a permanent injunction, the scope of any such injunction, and the terms and rate for any post-judgment royalty in lieu of an injunction. ION argues that WesternGeco's permanent injunction is premised on exclusivity, which may be undermined by its license to Fugro and offer to license the patents to ION's other customers.

WesternGeco has worked with Fugro to provide a redacted version of the agreement to ION. (Doc. No. 611, Ex. 14.) The Court finds that this is sufficient. Discovery after trial is the exception and

not the rule. ION has not shown the need for an exception. The Motion to Compel is denied.

B. Motion for a Permanent Injunction or, in the Alternative, an Ongoing Royalty (Doc. No. 558)

After the jury issued its verdict, ION's CEO announced ION's intention to "challenge the verdict," and stated that ION "ha[s] sufficient inventory of DigiFIN available to satisfy customer need." (Doc. No. 558, Ex. 1.) Media reports confirmed that, notwithstanding the verdict, "DigiFIN [ ] will remain available for sale." (Doc. No. 558, Ex. 3.) WesternGeco moves the Court to enter a permanent injunction or, in the alternative, award an ongoing royalty for the sales of ION's infringing products. (Doc. No. 558.) The Court finds that a permanent injunction is proper in this case.

1. Legal Standard

Courts have discretion to grant injunctive relief "in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable." 35 U.S.C. § 283. By virtue of the Supreme Court's decision in *eBay*, a patentee must satisfy the well-established four-factor test for injunctive relief before a court may grant a permanent injunction:

> (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and

> defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006).

2. Permanent Injunction

The Court finds that a permanent injunction is proper. ION stated multiple times to the Court that "[f]ollowing the Court's finding of infringement, ION immediately ceased selling DigiFIN." (Doc. No. 577 p. 22; Doc. No. 559 p. 24.) ION represented the same to the jury:

> Q. Sir, after you were found to infringe ... You didn't stop offering those products for sale, did you?
>
> A. In fact, we have no sold that product since then.

* * *

> Q. So when did you stop selling DigiFIN, sir?
>
> A. Well, I said stop selling—yea, we—when that happened, when the—when the Court made that ruling.
>
> Q. So you made a business decision that at that point, you would no longer sell DigiFIN?
>
> A. Yea. Until the case is solved—

resolved. We are not done yet.

(Trial Tr. 4491:15–4492:1.) However, ION's post trial accounting reveals that this assertion was false and ION did sell more DigiFIN after the Court's ruling and even after trial. The Court finds these misstatements deeply troubling.

ION claims that a September 2012 sale was not a sale because the contract for the infringing product occurred in March 2012. The Court cannot accept this thinly veiled excuse. It also appears that ION shipped DigiFIN abroad from the United States to ION Dubai, which continues to make sales. The Court need not delve into whether this conduct infringed § 271(f) at this time because the misleading statements and the September 2012 sale are enough for the Court to find that all four factors of *MercExchange, L.L.C.* weigh in favor of a permanent injunction. First, WesternGeco has suffered injury and may continue to suffer injury since ION has shown that it will continue to infringe. Second, since ION has not followed the Court's order, no remedy at law can fully compensate WesternGeco besides an injunction. Third, the Court does not find particular hardships to ION. Fourth, there is no evidence that an injunction will disserve the public. In fact, ION's disregard for the Court's order warrants a permanent injunction to support the public's interest in maintaining a strong patent system.

XV. CONCLUSION

For the reasons discussed above, the Court finds that:

1. ION's Partial Motion to Dismiss for Lack of Subject Matter Jurisdiction (Doc. No. 565) is **DENIED;**

2. ION's Rule 59 Motion for New Trial on Invalidity Under 35 U.S.C. §§ 102 and 103 (Doc. No. 550) is **DENIED;**

3. ION's Request for Findings and Conclusions on Enablement and, Alternatively, Motion for New Trial (Doc. No. 552) is **DENIED;**

4. ION's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non–Infringement (Doc. No. 556) is **DENIED;**

5. ION's Motion for New Trial on Infringement Under 35 U.S.C. § 271(f)(2) (Doc. No. 557) is **DENIED;**

6. ION's Motion for JMOL and New Trial Due to Incorrect Claim Construction (Doc. No. 561) is **DENIED;**

7. ION's Motion for Entry of Findings and Conclusions of No Willful Infringement, Renewed Motion for Judgment as a Matter of Law of No Willful Infringement, and Alternative Motion for New Trial (Doc. No. 559) is **GRANTED;**

8. WesternGeco's Motion for Willfulness and Enhanced Damages (Doc. No. 560) is **DENIED;**

9. WesternGeco's Motion to Find this Case Exceptional Under Section 285 and for Attorneys' Fees (Doc. No. 554) is **DENIED;**

10. ION's Motion for JMOL, Motion for New Trial on Damages alternatively Motion for Remittitur (Doc. No. 562) is **DENIED;**

11. WesternGeco's Motion for Prejudgment Interest and Post–Discovery Damages (Doc. No. 553) is **GRANTED;**

a. Prejudgment interest will be calculated at the prime rate, compounded annually. ION is ordered submit calculations on the jury award within ten days.

b. Supplemental damages are proper for ION's sales after May 2011. WesternGeco is ordered to submit a motion regarding supplemental damages within 15 days.

12. WesternGeco's Motion for Costs (Doc. No. 555) is **GRANTED in part and DENIED in part;**

a. WesternGeco may recover costs in the amount of $438,388.48

13. ION's Motion to Compel Production of Documents From WesternGeco (Doc. No. 609) is **DENIED;**

14. WesternGeco's Motion for a Permanent Injunction or, in the Alternative, an Ongoing Royalty (Doc. No. 558) is **GRANTED.**

IT IS SO ORDERED.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
Houston Division.

WESTERNGECO L.L.C.,
Plaintiff,
v.
ION GEOPHYSICAL CORPORATION, et al.,
Defendants.

No. 4:09–CV–1827

July 16, 2012.

Attorneys and Law Firms

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MEMORANDUM AND ORDER

KEITH P. ELLISON, District Judge.

In a pretrial conference held on Friday, July 13, 2012, the Court addressed a number of motions to exclude and motions in limine, resolving some and holding others over for trial. The Court now writes to resolve Defendants' Motions to Exclude the Expert Testimony of Raymond Sims (Doc. Nos. 250, 256), as well as certain Motions in Limine filed by the parties. (Doc. Nos. 384, 385, 386.)

I. MOTIONS TO EXCLUDE RAYMOND SIMS

Defendants ION Geophysical Corporation ("ION") and Fugro–Geoteam, Inc.; Fugro Geoteam AS; Fugro Norway Marine Services AS; Fugro, Inc.; Fugro (USA), Inc.; and Fugro Geoservices, Inc. (collectively, "Fugro") have filed motions seeking to exclude the expert testimony of Raymond Sims. (Doc. Nos. 350, 356.)Mr. Sims is the damages expert for Plaintiff WesternGeco L.L.C. ("WesternGeco" or "WG"). Defendants challenge Mr. Sims's damages analysis as to reasonable royalty damages and as to lost profits. After considering Defendants' motions, all responses thereto, oral arguments, and the applicable law, the Court concludes that Defendants' motions must be granted in part and denied in part.

Federal Rule of Evidence 702 provides that a qualified witness may offer opinion testimony if it will help the trier of fact to understand the evidence

or determine a fact in issue. Fed. R. Evid. 702. Courts are charged with the "gatekeeping function" of ensuring that expert testimony is both reliable and relevant. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589, 592–93, 597 (1993).Rule 702 requires that (1) expert testimony be based on sufficient facts or data, (2) it be the product of reliable principles and methods, and (3) those principles and methods be applied reliably to the facts of the case. Fed. R. Evid. 702.

In *Daubert,* the Supreme Court provided several nonexclusive factors to guide courts in evaluating the reliability of a methodology. Those factors include whether the theory can be and has been tested; whether the theory has been subjected to peer review and publication; the theory's known or potential rate of error; the existence and maintenance of standards and controls; and whether the theory is generally accepted. 509 U.S. at 593–94. Otherwise admissible expert testimony may be excluded under Rule 403. *Daubert,* 509 U.S. at 595; *see also* Fed. R. Evid. 403. The proponent of the expert testimony bears the burden of proving, by a preponderance of the evidence, "that the expert's findings and conclusions are based on the scientific method, and, therefore, are reliable." *Moore v. Ashland Chem. Inc.,* 151 F.3d 269, 276 (5th Cir. 1998) (en banc).

A. Reasonable Royalty

After considering Mr. Sims's reasonable royalty analysis, the Court is troubled by his application of the hypothetical license negotiation.

Originally listed as one of many reasonable royalty factors in *Georgia–Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), the hypothetical negotiation has evolved into an umbrella over all the other factors. *Powell v. Home Depot U.S.A.*, 663 F.3d 1221, 1239 (Fed. Cir .2012) (amount of the reasonable royalty that should be awarded upon a "reasoned hypothetical negotiation analysis"); *State Indus., Inc. v. Mor–Flo Indus., Inc.*, 883 F.2d 1573, 1580 (Fed. Cir. 1989) ("The determination of a reasonable royalty, however, is based not on the infringer's profit margin, but on what a willing licensor and licensee would bargain for at hypothetical negotiations on the date infringement started."). The Federal Circuit has indicated, at times, that the hypothetical negotiation approach is not strictly mandatory. *See Wordtech Sys. v. Integrated Network Solutions, Inc.* ., 609 F.3d 1308, 1319 (Fed. Cir. 2010) ("A reasonable royalty can be calculated from an established royalty, the infringer's profit projections for infringing sales, or a hypothetical negotiation between the patentee and infringer based on the factors in *Georgia–Pacific.*"). However, other Federal Circuit cases, including one *en banc* decision, have indicated that it is a mandatory approach. *See Fujifilm Corp. v. Benum*, 605 F.3d 1366, 1372 (Fed. Cir. 2011) ("To determine a reasonable royalty, a jury must find the royalty that would have been agreed to in a hypothetical negotiation between a willing licensee and willing licensors at the time infringement began."); *Rite–Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1554 (Fed. Cir. 1995) (en banc) ("The royalty may be based upon an established royalty, if there is one, or if not, upon the supposed result of hypothetical negotiations between

the plaintiff and defendant.") (citation omitted). In the present case, neither party appears to challenge the appropriateness or applicability of the hypothetical negotiation approach generally.

Turning to the law governing the principles of a hypothetical negotiation, the Federal Circuit has characterized the approach thus:

> The methodology encompasses fantasy and flexibility; fantasy because it requires a court to imagine what warring parties would have agreed to as willing negotiators; flexibility because it speaks of negotiations as of the time infringement began, yet permits and often requires a court to look to events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators.

Fromson v. Western Litho–Plate & Supply Co., 853 F.2d 1568, 1575 (Fed. Cir. 1988). In a hypothetical negotiation—as opposed to real-life license negotiations—a number of facts are deemed to be irrebuttably known. One is that the patent is valid, another is that the patent is infringed. *See, e.g., Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1325 (Fed. Cir. 2009), *cert. denied,*130 S. Ct. 1334 (2010) ("The hypothetical negotiation also assumes that the asserted patent claims are valid and infringed."); *Studiengesellschaft Kohle m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1570 (Fed. Cir. 1988)

(citing trial court's recognition that, in hypothetical negotiations, there is a presumption of "an unquestionably valid patent").

Given that backdrop, the Court cannot assume, as WG's counsel has urged, that ION, in a hypothetical negotiation with WG, would have taken a risk on the infringement question and agreed to a huge, profit-eliminating (and even revenue eliminating) royalty obligation for itself. As a matter of law, no such risk can be taken in a hypothetical negotiation in which infringement is deemed known. With knowledge of validity and infringement, such a financially catastrophic agreement would have been totally unreasonable. The court in *Georgia–Pacific* acknowledged the proposition that negotiators in hypothetical negotiations must be deemed to act reasonably: "The primary inquiry, often complicated by secondary ones, is what the parties would have agreed upon, if both were reasonably trying to reach an agreement."*Georgia–Pacific,* 318 F. Supp. at 1121 (quoting *Faulkner v. Gibbs,* 199 F.2d 635, 639 (9th Cir. 1952) (internal quotation marks omitted). Even putting case law aside, any unreasonable negotiating approach must be rejected, since the ultimate goal is to arrive at what the statute terms a "reasonable royalty." Mr. Sims's methodology inherently arrives at an unreasonable result, and one to which no reasonable negotiator for ION could possibly have agreed. The Court therefore grants ION's motion to exclude Mr. Sims's testimony on reasonable royalty.

B. Lost Profits

The Court separately considers Mr. Sims's

analysis as to lost profits. To recover lost profits, a patentee must "show a reasonable probability that 'but for' the infringing activity, the patentee would have made the infringer's sales."*Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1353 (Fed. Cir. 2001) (emphasis added). Considering whether such "but-for" causation exists "requires a reconstruction of the market, as it would have developed absent the infringing product, to determine what the patentee 'would ... have made.'" *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1342, 1350 (Fed. Cir. 1999) (quoting *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 979 F. Supp. 1233, 1236 (N.D. Ind. 1997)). In *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, the Sixth Circuit developed a four-factor test for determining causation. 575 F.2d 1152 (6th Cir. 1978). The test provides that a patentee seeking to recover lost profits on sales that the patentee would have made absent infringement most show: (1) demand for the patented product; (2) absence of acceptable noninfringing alternatives; (3) the patentee's manufacturing and marketing capability to exploit the demand; and (4) the amount of profit that the patentee would have made. *Id. at* 1156.

In considering WG's lost profits, Mr. Sims evaluated a number of surveys that ION's customers conducted using ION's DigiFIN product. He then reconstructed the market to determine whether WesternGeco would have gotten bids to perform those surveys absent ION's alleged infringement. Out of all surveys performed using DigiFIN, Mr. Sims identified a small subset which he believes WG would have been awarded in his reconstructed

market. Mr. Sims then proceeded to consider each of the four *Panduit* factors, ultimately concluding that there was a high demand for steerable streamers, that noninfringing alternatives would not have been acceptable as to this subset of surveys, and that WG had the manufacturing and marketing capability to exploit the demand for steerable streamers.

The Court has considered Defendants' objections to this methodology. Those include their contentions that Mr. Sims's focus on ION's customers' surveys was improper, that he failed adequately to reconstruct the market, that his analysis utilized unreliable data, and that some of the particular surveys included in his analysis could not have been won by WesternGeco, and therefore may not be included as lost profits.

After considering these arguments, the Court is persuaded that the issues raised by Defendants are properly addressed on cross-examination and through Defendants' own presentation of evidence. Mr. Sims applied the methodological approach that all parties agree is appropriate by utilizing the *Panduit* factors. In applying that approach, he went through each of the four factors with a detailed explanation of why he reached his particular conclusions. Although there are undoubtedly other approaches that Mr. Sims could have taken, Defendants have failed to persuade the Court that his methodology or approach was improper under the *Daubert* standard.

Notwithstanding the general admissibility of Mr. Sims's analysis, there is one survey that

concerns the Court from a *Daubert* standpoint. This survey, referred to by Fugro as the Lukoil/Vanco Ghana survey, was one of the surveys that Mr. Sims opined would have been won by WG in the reconstructed market. However, the manager of WesternGeco's CRM database has agreed that WG did not submit a tender for this survey. (Deposition of Samantha Graycon, Doc. No. 356–E at 103:15–104:17.) Without having submitted a tender on this survey, WG cannot legitimately argue—and it would be confusing and unhelpful to the jury to allow Mr. Sims to contend—that this survey would have been won by WG in a reconstructed market. Thus, while the Court finds that Defendants' other challenges are properly addressed at trial, it cannot allow Mr. Sims to testify that the Lukoil/Vanco Ghana survey should be considered a lost profit survey. As such, this survey may not be included in Mr. Sims's analysis at trial.

II. MOTIONS IN LIMINE

The Court addressed a handful of the parties' Motions in Limine during the pretrial conference held on Friday, July 13. The Court now considers those unresolved motions that the parties have indicated may present issues during voir dire or opening statements.

A. ION's Second Motion in Limine

In its second Motion in Limine, ION asks the Court to exclude "[a]ny reference to a presumption of validity of any patent-in-suit ."(Doc. No. 384 at 4.) ION contends that "reference to any presumption is not evidence but instead a procedural device without

any independent evidentiary value to be weighed against ION's evidence of invalidity."(*Id.*) The Court disagrees. It is beyond dispute that patents-in-suit must be presumed valid. 35 U.S.C. § 282(a). This presumption is inextricably linked to Defendants' burden to prove invalidity by clear and convincing evidence. The Court finds that the presumption of validity is not only appropriate information for the jury, but that it is helpful. ION's second Motion in Limine therefore is denied.

B. ION's Third Motion in Limine

In its third Motion in Limine, ION seeks to exclude "[a]ny mention of or reference to any indemnity obligation between ION and the Fugro Defendants."(Doc. No. 384 at 5.) ION bases this on the fact that WesternGeco has no standing to assert any right to indemnity on the part of the Fugro Defendants. WG has indicated that it does not intend to assert any rights on behalf of Fugro, but instead that it seeks to introduce the indemnity relationship as it is related to willfulness. Reference to the indemnity agreement for this purpose is not per se improper, and the Court will not exclude it in advance of trial. If it becomes clear during the course of trial that WesternGeco seeks to introduce this evidence for an improper purpose, the Court will consider excluding it at that time.

C. WesternGeco's First Motion in Limine

In its first Motion in Limine, WesternGeco seeks to preclude Defendants from disputing a number of facts that WG contends were resolved on summary judgment. (Doc. No. 386 at 1.) The Court

ruled on a portion of this motion during the pre-trial conference, and will hold other portions over until trial. However, the Court wishes to clarify certain issues prior to trial.

WesternGeco moves to preclude Defendants from disputing that the DigiFIN includes an active streamer positioning device ("ASPD") capable of controlling the vertical and horizontal position of a seismic streamer. Defendants respond that, because the Court's finding on this matter was made in the context of denying Defendants' motions for summary judgment, and not in the context of granting a motion in favor of WG, this issue remains a factual question for trial. The Court does not agree. When the Court considered this issue at the summary judgment phase, it was in the context of a two-fold inquiry. The first question was whether the DigiFIN includes an ASPD. (Doc. No. 365 at 91.) The second was whether the DigiFIN includes an array geometry tracking system.(*Id.*) In order to infringe the claim at issue, the Court explained, the DigiFIN had to have both of these components. (*Id.*)

The Court held that the DigiFIN *did* have the first component, an ASPD: "The Court is persuaded, in light of the foregoing evidence, that the DigiFIN includes an ASPD capable of controlling the vertical and horizontal position of a seismic streamer."(*Id* . at 92.)As to whether DigiFIN included the second component, an array geometry tracking system, the Court found that a genuine issue of material fact existed. (*Id.* at 93.). Thus, the Court has held, conclusively, that the DigiFIN includes an ASPD, and this issue may not be relitigated. This portion of

WesternGeco's first motion in limine is granted.

WesternGeco also moves for a ruling in limine that the term "predicting position" in claim 16 of the '017 patent does not "require something occurring at a future time."(Doc. No. 386 at 2.) As Defendants point out, the Court refused to construe this term and instead held that it has its ordinary meaning. (Transcript of December 15, 2011 Hearing, Doc. No. 395–B at 55:17–20.) This portion of WesternGeco's first Motion in Limine is denied.

D. WesternGeco's Fourth Motion in Limine

WesternGeco's fourth Motion in Limine seeks to exclude "prior art not relied upon as a basis for invalidity by Defendants' experts ."(Doc. No. 386 at 5.) At the pretrial conference on July 13, the Court held portions of this motion over for trial. However, as to the "Workman Reference," the Court writes to clarify that testimony about this patent will not be excluded. The Court considered the Workman Reference as a potential source of prior art in its most recent Memorandum and Order (Doc. No. 365 at 25–28), concluding that a factual issue remains with respect to the Workman reference as prior at. Allowing Defendants' experts to opine about the Workman Patent as it relates to the '520 Patent would not prejudice WesternGeco and would be helpful to the jury. WesternGeco's fourth Motion in Limine therefore is denied in part.

The remainder of WesternGeco's Motions in Limine need not be resolved prior to trial.

E. Fugro's First Motion in Limine

In its First Motion in Limine, Fugro asks the Court to preclude WG from eliciting fact or expert testimony, attempting to admit documentary evidence, or otherwise arguing before the jury that bodies of water that lie more than 12 miles outward from the U.S. coastline, the high seas (including the Chukchi Sea), or the United States' Exclusive Economic Zone (including the EEZ in the Gulf of Mexico) are U.S. territories or possessions. (Doc. No. 385 at 1–3.) Fugro also asks the Court to preclude WG from stating, implying, or attempting to admit evidence to prove the presence of a Fugro ship within 12 miles of the U.S. coastline constitutes infringement. (*Id.*)

WG has indicated that it agrees to this motion, in part. WG avers that it will not argue before the jury that bodies of water more than 12 miles outward of the coastline are U.S. territories. WG disagrees with the latter half of the motion in which Fugro seeks to preclude WG from stating or implying that certain activities constitute infringement. WG contends that these requests are premature and inappropriate, and that certain Fugro activities, including coming to port in the United States, are circumstantial evidence of infringement.

In ruling in favor of Defendants on a portion of their motion for summary judgment of non-infringement of WG's "Zajac" patent's system claims, the Court explained that WG's evidence of Defendants' surveys outside of the United States, evidence of their use of U.S. ports, and unsupported inferences that Defendants may have conducted tests

in the United States while they were in transit to the survey locations, did not give rise to a genuine issue of material fact. (Doc. No. 365 at 87.) On that basis, the Court concluded that neither Fugro nor ION made or used the patented system in the United States.

In light of the Court's rulings on summary judgment, WG may not state or imply to the jury that activities described in the Court's opinion—such as coming to port in the United States or conducting surveys outside of the United States—constitute infringement as to WG's method claims or the Zajac patent's "systems" claims. WG may discuss these activities to offer context as to how Fugro and ION operated, but testimony implying that these activities are themselves infringing is impermissible.

III. CONCLUSION

In light of the foregoing, the Court concludes that Defendants' Motions to Exclude the Expert Testimony of Raymond Sims must be **GRANTED IN PART** and **DENIED IN PART.**The parties' Motion in Limine must be **GRANTED IN PART** and **DENIED IN PART.**

IT IS SO ORDERED

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
Houston Division

WESTERNGECO L.L.C.,
Plaintiff,
v.
ION GEOPHYSICAL CORPORATION, et al.,
Defendants.

No. 4:09–cv–1827

June 29, 2012

MEMORANDUM AND ORDER

KEITH P. ELLISON, District Judge.

Now pending before the Court is a portion of Plaintiff's Motion for Summary Judgment of Willful Infringement of the '520 Patent (Doc. No. 276), in which Plaintiff WesternGeco L.L.C. ("Plaintiff" or "WesternGeco") moves for summary judgment of infringement under 35 U.S.C. § 271(f). After considering the parties' supplemental briefing and all responses thereto, the Court concludes that the portion of Plaintiff's motion now before the Court must be granted in part and denied in part.

I. BACKGROUND

In the Court's June 11, 2012 Memorandum and Order (Doc. No. 345), amended by its June 26, 2012 Amended Memorandum and Order (Doc. No. 365), the Court requested supplemental briefing from the parties on the mental state requirements

under 35 U.S.C. § 271(f). The parties, including WesternGeco; Defendant ION Geophysical Corporation ("ION"); and Defendants Fugro–Geoteam, Inc., Fugro Geoteam AS, Fugro Norway Marine Services AS, Fugro, Inc., Fugro (USA), Inc., and Fugro Geoservices, Inc. (collectively, "Fugro"), have submitted the requested supplemental briefing. The Court now considers the nature of these mental state requirements and their effect on Plaintiff's motion for summary judgment.

I. SECTION 271(f)(1)

A. Mental State Requirement

Section 271(f)(1) provides as follows:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(1). In its request for supplemental briefing, the Court asked the parties whether this language requires only that an infringer actively induce the combination of components, which are later combined in a manner that would infringe the

patent if the combination occurred within the United States. Conversely, the Court inquired as to whether the language instead requires that an infringer actively induce, and therefore intend, that the combination be done in such a way that the infringer knows would infringe the patent if it occurred in the United States.

After considering the parties' supplemental briefing, the Court concludes that the plain language of Section 271(f)(1) is unambiguous and can be read in only one way. The phrase "the combination of such components" immediately follows "to actively induce." The natural reading of this language is that the activity being induced is the combination of components. *Cf. Barnhart v. Thomas*, 540 U.S. 20, 26 ("[A] limiting clause or phrase ... should ordinarily be read as modifying only the noun or phrase that it immediately follows.") That a violation of this Section requires the assembly of the components "outside of the United States in a manner that would infringe the patent if such combination occurred in the United States" does not require that the infringer be aware of, or intend the infringement of, the patent. Rather, this requirement ensures that the conduct made unlawful by Section 271(f)(1) is only the exportation and the encouragement of assembly, which assembly would be an infringement if it were done in the United States.

The Court acknowledges that certain aspects of the legislative history might favor attributing a higher mental state requirement—specifically, knowledge that the assembly would be an

infringement—to Section 271(f)(1).[1] However, "[i]t is well established that 'when the statute's language is plain, the sole function of the courts—at least where the disposition required by the text is not absurd—is to enforce it according to its terms.' " *Lamie v. U.S. Tr.*, 540 U.S. 526, 534 (2004) (quoting *Hartford Underwriters Ins. Co. v. Union Planters Bank, N.A.*, 530 U.S. 1, 6 (2000)). The language here is plain, and the disposition required by the text is as reasonable as any other (and at least arguably, as WesternGeco urges, advisable as a policy matter). Thus, even if the legislative history is read as Defendants urge, it cannot counter the unambiguous statutory language. The Court also briefly notes that model patent jury instructions developed by the Federal Circuit Bar Association, which ION cites in its supplemental briefing, are inconsistent with this Court's reading of the statute.[2] Model Patent Jury Instructions, The Federal Circuit Bar Association (2012). The instructions misread the statute and are not persuasive authority on this issue.

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[1] In enacting Section 271(f), Congress explained that a principal aim for the Section was "[t]o declare it to be patent infringement to supply components of an invention patented in the United States for final assembly abroad if the purpose of the shipment abroad is to circumvent a U.S. patent." S. Rep. No. 98–663, at 1 (1984).

[2] ION also cites the Model Patent Jury Instructions of the American Intellectual Property Law Association ("AIPLA"). Model Patent Jury Instructions, American Intellectual Property Law Association (2008). The Court reads AIPLA's model instructions on Section 271(f)(1) as tracing the statutory language and therefore as consistent with this Court's reading of the statute.

Finally, Defendants emphasize that Sections 271(f)(1) and (f)(2) are modeled after Sections 271(b) and (c). That is undeniably correct in some respects. For example, the Federal Circuit has recognized that "[t]he language of section 271(f) itself mimics the language of the indirect infringement provisions of Sections 271(b) and (c)." *Zoltek Corp. v. United States*, 672 F.3d 1309, 1334 (Fed. Cir. 2012). However, the conclusion that Defendants draw—that the mental state requirements under Section 271(f) therefore must be identical to those under Sections 271(b) and (c)—is flawed. The Federal Circuit has acknowledged that Section 271(f) is not identical to Sections 271(b) and (c). In *Waymark Corp. v. Porta Sys. Corp.*, the Federal Circuit placed Section 271(f)(2) on its own footing, distinguishing it from Section 271(c) by holding that, under Section 271(f)(2), there need not be any proof of a completed assembly abroad. 245 F.3d 1364, 1367–68. The Federal Circuit thus has begun to forge a new path for the statutory construction of Section 271(f), distinguishing it from other provisions from which its language was drawn. In determining the applicable mental state, the requirements of Section 271(f) are not presumptively identical to those of Sections 271(b) and (c). The Court concludes that Section 271(f)(1) requires that an alleged infringer (1) actively induce the combination of the components in question; and (2) that the combination of those components would infringe the patent if such combination occurred within the United States.

B. Analysis

There is little question, as discussed in the Court's prior Memorandum and Order, that WesternGeco has proven the first requirement of Section 271(f)(1)—that Defendants actively induced the combination of the components at issue here, the DigiFIN and the Lateral Controller. This intent to induce combination is shown throughout instruction manuals that ION and Fugro issued and distributed, which instruct end users to use the steering modes of the '520 patent. (Doc. No. 365 at 74.) [3] The undisputed record evidence proves that Defendants supply or cause to be supplied the DigiFIN and Lateral Controller components with the intent that these components will be combined outside of the United States. (Doc. No. 365 at 73.)

The remaining requirement is that the components be combined in a manner that would infringe the patent if such combination occurred

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[3] In its Amended Memorandum and Order, the Court explained as follows:

> As indicated by ION's Lateral Controller User's Manual, DigiFIN operates in its Even Separation Mode (the patented "streamer separation mode") by default. (Doc. No. 276–11 at ION015142, ION015156.) As noted above, Fugro's Project Procedure Navigation, a document which "sets out how to start, execute, and end a marine seismic acquisition project," states that '[d]eployment reflects a DigiFin spread for maintaining even streamer separation and will be the most common spread deployed."(Doc. No. 276–29 at FGRPROD000109764.) These documents make clear that DigiFIN and the lateral controllers are designed and used with steering modes, including the infringing even separation mode.

(Doc. No. 365 at 74.)

within the United States. The Court has ruled on this element already. The only question under Section 271(f)(1) for which the Court sought an answer in the parties' supplemental briefing was "whether both ION and Fugro's supply/cause of the supply of components in such a manner as to encourage their combination—*which ultimately[would have] infringed on WesternGeco's patent [if combined in the United States]*—is sufficient to meet the mental state requirement of Section 271(f)(1)."[4] (Doc. No. 365 at 73 (emphasis

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[4] WesternGeco did not move for, and the Court therefore could not grant, summary judgment of infringement under Section 271(a). (The Court did grant summary judgment for WesternGeco under Section 271(a) in its original Memorandum and Order. (Doc. No. 345 at 64.) However, as ION pointed out in its Motion for Reconsideration (Doc. No. 352 at 5–7), this grant of summary judgment was improper, both because WesternGeco did not move for it, and because the parties' summary judgment briefing did not address whether Defendants infringed the '520 patent under Section 271(a)'s "makes, uses, offers to sell, or sells" requirement for infringement. The Court therefore amended its Memorandum and Order to remove the language granting summary judgment for WesternGeco on the '520 patent under 271(a). (Doc. No. 365 at 64.).) However, the Court did find that the components in question have been combined outside of the United States in manner that would infringe the '520 patent if the combination had been done in the United States. The Court explained, for example, that "ION's Accused Products can, at a minimum, operate in the infringing streamer separation mode."(Doc. No. 365 at 64.) The Court also found that "Fugro used DigiFINs to accomplish the infringing streamer separation mode."(*Id.* at 73.) The Court does not read Section 271(f)(1)'s requirement that the components be combined outside of the United States

added).) The Court answered that question above. As the Court now has held that Plaintiff's evidence satisfies both of Section 271(f)(1)'s requirements, summary judgment must be granted under this Section.

II. SECTION 271(f)(2)

A. Mental State Requirement

Section 271(f)(2) provides as follows:

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred

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"in a manner that would infringe the patent if such combination occurred within the United States" to require a plaintiff to submit proof on the "makes, uses, offers to sell, or sells" requirement. Thus, summary judgment is appropriate under Section 271(f)(1) if the combination of components is induced, and if that combination would be infringing in the United States; it does not require an additional finding that a defendant committed an act of infringement (such as made, sold, or offered for sale).

> within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2). As with Section 271(f)(1), the Court finds that the language in Section 271(f)(2) is unambiguous as to what it requires. Like Section 271(f)(1), 271(f)(2) requires that the accused infringer intend that the supplied component(s) be combined. 35 U.S.C. § 271(f)(2) ("Whoever without authority supplies or causes to be supplied ... any component of a patented invention *...intending that such component will be combined....* " (emphasis added)). However, Section 271(f)(2) imposes an additional constraint absent from Section 271(f)(1), requiring that the accused infringer supply such component "knowing that such component is ... especially made or especially adapted for use in the invention." *Id.* This language parallels the knowledge requirement in 35 U.S.C. § 271(c), which provides that the accused infringer must "know[ ] the [component] to be especially made or especially adapted for use in an infringement of such patent ." 35 U.S.C. § 271(c). Although the plain language of Section 271(f)(2) makes the consideration of legislative history unnecessary, the legislative history of Section 271(f)(2) only confirms what is clear from the plain language of the statute. S. Rep. 98–663 at 7 ("Paragraph [ ](2), like existing subsection 271(c), requires the infringer to have knowledge that the component is especially made or adapted.").

Because the mental state required for infringement under Section 271(f)(2) is equivalent to that required under Section 271(c), the Court looks to the Supreme Court's analysis Section 271(c) for

guidance. In *Aro Manufacturing Co. v. Convertible Top Replacement Co., Inc.*, 377 U.S. 476, 488 (1964), a majority of the Supreme Court held that Section 271(c)"require[s] a showing that the alleged contributory infringer knew that the combination for which his component was especially designed was both patented and infringing."The Court therefore concludes that Section 271(f)(2) requires a plaintiff to prove that the defendant (1) intended the combination of components; (2) knew that the combination he intended was patented; and (3) knew that the combination he intended would be infringing if it occurred in the United States.

B. Analysis

As noted above, WesternGeco has proven that Defendants intended the combination of the components at issue. However, even assuming WesternGeco has proven the second element under Section 271(f)(2)—that Defendants knew that the combination at issue was patented—WesternGeco has failed to meet its burden of proving the third element, that Defendants *knew* that the combination was infringing. First, WesternGeco points to ION's response to Interrogatory Number 13, in which ION admits that it became aware of the patents-in-suit "around the date of the issuance for each WesternGeco Patent–in–Suit."(Doc. No. 276–32 at 6.) ION then says that it "did not undertake an investigation of potential infringement or of the [patents'] enforceability and/or validity until after WesternGeco first accused ION Geophysical of infringement .... ION Geophysical has sought opinions of counsel regarding" the WesternGeco

patents.(*Id.*) WesternGeco then points to an email from apparent Fugro employee Svein Dale to ION marketing specialist, John Thompson, which asks Mr. Thompson what ION's position is "on this WG patent in relation to DigiFIN."(Doc. No. 276–33.) Next, WesternGeco highlights the response from Mr. Thompson to Mr. Dale, in which Mr. Thomson writes:

> "I know that this was very thoroughly researched during the early days of the DigiFIN development and was one of our considerations before continuing with the project. The short answer is that we have no concerns over the [WesternGeco] patent, but I have passed your question on to our internal patent attorney to get you the official answer."

(Doc. No. 276–35.) WesternGeco also cites email between presumed ION employee Gaetan Mellier and Mr. Dale, which says "The patent I sent you was not the right one. You will find the good one attached ."(Doc. No. 276–34.) Finally, WesternGeco cites to a Fugro quarterly report which states that "Western Geco [sic] has indicated to StatoilHydro that there is a branch of IP rights related to the use of DigiFin technology. We have not been contacted by Western Geco [sic] on the issue, but we are investigating potential conflicts in cooperation with ION and StatoilHydro."(Doc. No. 276–43 at FGRPROD000117285.)

Ultimately, the very most these documents

prove is that Defendants were considering the possibility of infringement; notably, a number of the documents fail to specify to which WesternGeco patent they refer. Moreover, Defendants have pointed to the opinion of ION's Vice President of Engineering, Mr. Lambert, who reviewed the '520 patent's claims and specification and came to the conclusion that ION's towed streamer system did not perform or contain each of the required limitations of the '520 patent's claims. (Doc. No. 298–D, Lambert Decl. ¶¶ 9–11.) [5] Thus, though Defendants apparently were aware of—and arguably concerned about the possibility of infringing—WesternGeco's patents, the record evidence does not meet the high burden of demonstrating knowledge of infringement of the '520 patent.

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[5] WesternGeco urges that Defendants' reliance on Mr. Lambert's opinion is improper, as it violates WesternGeco's understanding of a requirement, imposed by this Court in its Scheduling Order, that Defendants disclose any plan to rely on an opinion of counsel to defend themselves by January 13, 2012. (Doc. No. 166–2 at 3.) Even if Defendants failed to comply with the scheduling order in disclosing such information, the Court concludes that it would be improper to ignore this evidence and grant summary judgment when the evidence, though arguably noncompliant with the Court's requirements, helps create a genuine issue of material fact. In any event, though, the Court notes that WesternGeco's summary judgment evidence, even if it were uncontroverted, would be insufficient to support summary judgment under Section 271(f)(2).

III. CONCLUSION

For the foregoing reasons, the remainder of WesternGeco's Motion for Summary Judgment of Willful Infringement of the '520 Patent (Doc. No. 276) must be **GRANTED IN PART** and **DENIED IN PART.** Summary judgment must be **GRANTED** under Section 271(f)(1). Because a genuine issue of material fact remains as to Defendants' mental state, summary judgment under Section 271(f)(2) must be **DENIED.**

IT IS SO ORDERED.

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

WESTERNGECO L.L.C.,
Plaintiff,

v.

ION GEOPHYSICAL CORPORATION,
Defendant.

Civil Action No.4:09-CV-01827

Judge Keith P. Ellison

Jury Trial Demanded

FINAL JUDGMENT

Based on the Court's Orders and the jury's verdict, the Court Enters FINAL JUDGMENT in favor of Plaintiff WesternGeco L.L.C. and against Defendant ION Geophysical Corporation as follows:

Jury Verdict:	$105,900,00.00
Supplemental Damages:	$9,408,118.41
Pre-judgment interest (through April 22, 2014):	$10,925,167.00
Costs:	$438,388.48
Polarcus Credit:	($3,000,000.00)
FINAL JUDGMENT	**$123,671,673.89**

WesternGeco is entitled to an additional $10,968 in pre-judgment interest for each day between April 22, 2014 and the date of Final Judgment.

$10,968 per day x 15 days = $164,520;

Post-judgment interest will accrue pursuant to statute in effect on date of entry.

Defendant ION is denied all relief on its Counter-claims and affirmative defenses and shall take nothing.

Further, Defendant ION Geophysical Corporation, its servants, agents, and anyone acting in concert with it (collectively, "ION"), are enjoined from supplying in or from the United States the DigiFIN product or any parts unique to DigiFIN product, or any instrumentality no more than colorably different from any of these products or parts, for combination outside of the United States. This injunction shall remain in force until all of the claims found infringed in the patents in suit are found invalid, unenforceable or expire, or this injuction is reversed or vacated or modified on appeal or by this Court. This Court retains jurisdiction over enforcement of this injunction and its terms.

This is a Final Judgment pursuant to Fed. R. Civ. P. 58.

May 7, 2014
Date

/s/ Keith P. Ellison
Keith P. Ellison
United States District Judge

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

WESTERNGECO L.L.C.,
Plaintiff,

v.

ION GEOPHYSICAL CORPORATION,
Defendant.

Civil Action No.4:09-CV-01827

Judge Keith P. Ellison

VERDICT FORM

QUESTION 1 - INFRINGEMENT UNDER 35 U.S.C. § 271(F)(1)

Did WesternGeco prove by a preponderance of the evidence that ION infringed any of the patent claims listed below pursuant to Section 271(f)(1)?

Answer "Yes" or "No" for each of the listed claims in the spaces provided below.

'520 Patent:

Claim 19: **YES**

Claim 23: **YES**

'967 Patent:

Claim 15 **YES**

'607 Patent:

Claim 15 YES

'038 Patent:

Claim 14 YES

QUESTION 2 - INFRINGEMENT UNDER 35 U.S.C. § 271(F)(2)

Did WesternGeco prove by a preponderance of the evidence that ION infringed any of the patent claims listed below pursuant to Section 271(f)(2)?

Answer "Yes" or "No" for each of the listed claims in the spaces provided.

'520 Patent:

Claim 18: YES

Claim 19: YES

Claim 23: YES

'967 Patent:

Claim 15 YES

'607 Patent:

Claim 15 YES

'038 Patent:

Claim 14 YES

QUESTION 3 - INVALIDITY

(A) '520 PATENT

Anticipation of the '520 Patent

Did ION prove by clear and convincing evidence that U.S. Patent No. 5,709,472 ("Workman Patent") anticipates Claim 18 of the '520 Patent?

Answer "Yes" or "No" in the space provided: NO

Non-enablement of the '520 Patent

Did ION prove by clear and convincing evidence any of the following claims of the '520 patent are ***not*** enabled?

Answer "Yes" or "No" for each of the listed claims in the spaces provided:

Claim 18 of the '520 Patent NO

Claim 19 of the '520 Patent NO

Claim 23 of the '520 Patent NO

(B) '967 PATENT

Obviousness of the '967 Patent

Did ION prove by clear and convincing evidence that that the combination of U.S. Patent No. 5,790,472 ("Workman Patent") and International Application WO 98/28536 ("'636 Patent Publication") renders Claim 15 of the '967 Patent obvious?

Answer "Yes" or "No" in the space provided: NO

Non-enablement of the '967 Patent

Did ION prove by clear and convincing evidence that Claim 15 of the '967 Patent is ***not*** enabled?

Answer "Yes" or "No" in the space provided: NO

(C) '607 PATENT

Anticipation of the '607 Patent

Did ION prove by clear and convincing evidence that U.S. Patent No. 5,790,472 (the "Workman Patent") anticipates Claim 15 of the '607 Patent?

Answer "Yes" or "No" in the space provided: NO

Obviousness of the '607 Patent

Did ION prove by clear and convincing evidence that the combination of U.S. Patent No. 5,790,472 (referred to as the "Workman Patent") and International Application WO 98/28636 (referred to as the "'636 Patent Publication") renders Claim 15 of the '607 Patent obvious?

Answer "Yes" or "No" in the space provided: NO

Non-Enablement of the '607 Patent

Did ION prove by clear and convincing evidence that Claim 15 of the '607 Patent is ***not*** enabled?

Answer "Yes" or "No" in the space provided: NO

(D) '038 PATENT

Anticipation of the '038 Patent

Did ION prove by clear and convincing evidence that International Application WO 00/20895 ("Hillesund '895 Application) anticipates Claim 14 of the '038 patent?

Answer "Yes" or "No" in the space provided: NO

Obviousness of the '038 patent

Did ION prove by a clear and convincing evidence that International Application WO 00/20895 ("Hillesund 'Application) renders Claim 14 of the '038 patent obvious?

Answer "Yes" or "No" in the space provided: NO

Non-Enablement of the '038 Patent

Did ION prove by clear and convincing evidence that Claim 14 of the '038 Patent is ***not*** enabled?

Answer "Yes" or "No" in the space provided: NO

QUESTION 4 - WILLFUL INFRINGEMENT

Did WesternGeco prove by clear and convincing evidence that ION actually knew, or it was so obvious that ION should have known, that its actions constituted infringement of a valid patent claim?

Answer "Yes" or "No" in the space provided:

YES

QUESTION 5 - DAMAGES

If any claim is infringed and not invalid, what damages do you find WesternGeco has proven by a preponderance of the evidence that it suffered as a result of ION's infringement? Any amount found should be written in dollars and cents.

Lost profits: **$93,400,000.**

Reasonable Royalty: **$12,500,000.**

For the Jury:

By: _____
Foreperson

Date: 16 AUGUST 2012

Note: This order is nonprecedential.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

WESTERNGECO L.L.C.,
Plaintiff-Cross-Appellant

v.

ION GEOPHYSICAL CORPORATION,
Defendant-Appellant

2013-1527, 2014-1121, -1526, -1528

Appeals from the United Stated District Court for the Southern District of Texas in No. 4:09-cv-01827, Judge Keith P. Ellison.

ON PETITION FOR REHEARING EN BANC

Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.

WALLACH, *Circuit Judge*, with whom NEWMAN and REYNA, *Circuit Judges*, join, dissents from the denial of the petition for rehearing en banc.

PER CURIAM.

ORDER

A petition for rehearing en banc was filed by cross-appellant WenternGeco L.L.C., and a response thereto was invited by the court and filed by appellant ION Geophysical Corporation. The petition for rehearing and response were fisrt referred to the panel that heard the appeal, and thereafter, to the circuit judges who are in regular active service. A poll was requested, taken, and failed.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on November 6, 2015.

FOR THE COURT

October 30, 2015
Date

/s/ Daniel E. O'Toole
Daniel E. O'Toole
Clerk of Court

Note: This order is nonprecedential.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

WESTERNGECO L.L.C.,
Plaintiff-Cross-Appellant

v.

ION GEOPHYSICAL CORPORATION,
Defendant-Appellant

2013-1527, 2014-1121, -1526, -1528

Appeals from the United Stated District Court for the Southern District of Texas in No. 4:09-cv-01827, Judge Keith P. Ellison.

Wallach, *Circuit Judge*, with whom Newman and Reyna, *Circuit Judges*, join, dissenting from the denial of the petition for rehearing en banc.

For the reasons articulated in my dissent from the panel opinion, I dissent from the denial of the petition for rehearing en banc. *See WesternGeco L.L.C. v. ION Geophysical Corp.*, 791 F.3d 13401354-64 (Fed. Cir. 2015) (Wallach, J., dissenting-in-part).

In addition, an amicus brief submitted in support of the petition for rehearing en banc raised the issue

of whether extension of the presumption against extraterritoriality to damages, in the manner done by the panel in this case, is at odds with the longstanding and analogous "predicate act" doctrine in the copyright context. The predicate act doctrine holds that a copyright owner "is entitled to recover damages flowing from the exploitation abroad of . . . domestic acts of infringement." *L.A. News Serv. v. Reuters Television Int'l, Ltd.*, 149 F.3d 987, 991–92 (9th Cir. 1998) (tracing the predicate act doctrine to Judge Learned Hand's opinion in *Sheldon v. Metro-Goldwyn Pictures Corp.*, 106 F.2d 45 (2d Cir. 1939), *aff'd*, 309 U.S. 390 (1940)); *see also Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co.*, 682 F.3d 292, 306 (4th Cir. 2012) ("We adopt the predicate-act doctrine, which posits that a plaintiff may collect damages from foreign violations of the Copyright Act so long as the foreign conduct stems from a domestic infringement."); *Update Art, Inc. v. Modiin Publ'g, Ltd.*, 843 F.2d 67, 73 (2d Cir. 1988) ("It is well established that copyright laws generally do not have extraterritorial application. There is an exception—when the type of infringement permits further reproduction abroad—such as the unauthorized manufacture of copyrighted material in the United States.").

In this case, WesternGeco's damages flowed from the exploitation abroad of domestic acts of patent infringement under § 271(f). The court's denial of rehearing en banc unfortunately prevents consideration of the predicate act doctrine, which is of particular import given "the historic kinship between patent law and copyright law." *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417,

439 (1984). For this reason, and for other reasons already explained, I respectfully dissent.